TIGER I and TIGER II TANKS

GERMAN ARMY AND WAFFEN-SS NORMANDY CAMPAIGN 1944

TANK CRAFT

Dennis Oliver

Commanded by Untersturmführer Max Görgens, this mid-production Tiger I is one of the tanks allocated to 3.Kompanie, schwere SS-Panzer-Abteilung 101 in late 1943. Note the gun travel lock on the hull rear, a feature that was dropped from production in February 1944. Another view of this tank is shown in the small photograph on page 22 of the Camouflage & Markings section.

TankCraft 25

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Front cover. At top: Lester Plaskitt's highly detailed and exquisitely painted Tiger I replica in 1/35 scale. Additional images of this model are shown from page 27 of the Model Showcase section. The photographs in the centre depict, from left to right, a mid production Tiger I of 3.Kompanie, schwere SS-Panzer-Abteilung 101. Tiger 114 of schwere Panzer-Abteilung 101. This tank was disabled in the fighting for the Falaise Pocket. One of the first Tiger II tanks assembled, this vehicle was allocated to Panzer-Kompanie (Funklenk) 316. The illustration at the foot of the page depicts a Tiger I of schwere SS-Panzer-Abteilung 101 which is discussed on page 21 of the Camouflage & Markings section.

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In the battles fought for the Normandy bridgehead, which could be said to have taken place between 6 June and 21 August 1944, the Germans employed a strategy of stubborn defence based around well-armed infantry units taking advantage of the prevailing terrain and prepared positions. When it was necessary to abandon those positions, an immediate counterattack was launched to retake them by whatever armoured units were available.

The practice of scraping together ad-hoc formations, or Kampfgruppen, from disparate elements was a form of warfare at which the Germans excelled and a key component of this strategy on the Eastern Front had been the heavy tank battalion or schwere Panzer-Abteilung. Well trained, highly motivated and equipped with Tiger I and Tiger II tanks, both armed with the outstanding 8.8cm gun, these units were without equal on the open plains of Byelorussia and the Ukraine, destroying enemy tanks at ranges of up to 1,500 metres.

An enduring image of the Normandy campaign, largely fostered by German wartime propaganda, is that of companies of Tiger tanks ploughing through the French countryside, impenetrable monsters which time and again held up the Allied advance. Despite the fact that the Tiger units took part in many pivotal operations, and their psychological impact cannot be overestimated, these tanks made up a very small part of the German armoured force. At the end of June 1944, at the height of the fighting for Caen, the German army in Normandy could field just fifty-six operational Tiger tanks. By 25 July, when the Americans launched Operation Cobra, that number had been reduced to forty-one combat-ready vehicles, less than the complement of a full strength battalion. This latter number should be compared to the almost 600 Panther and Pzkpfw IV tanks and as many self-propelled anti-tank and assault guns that could be called upon by Oberbefehlshaber West at about the same time.

In the first book in this series, *Tiger I and II Tanks: German Army and Waffen-SS Eastern Front 1944*, we examined the development of the Tiger tanks, the technical modifications that were incorporated into production until the end of 1944 and the tables of organisation for a heavy tank battalion introduced in June of the same year.

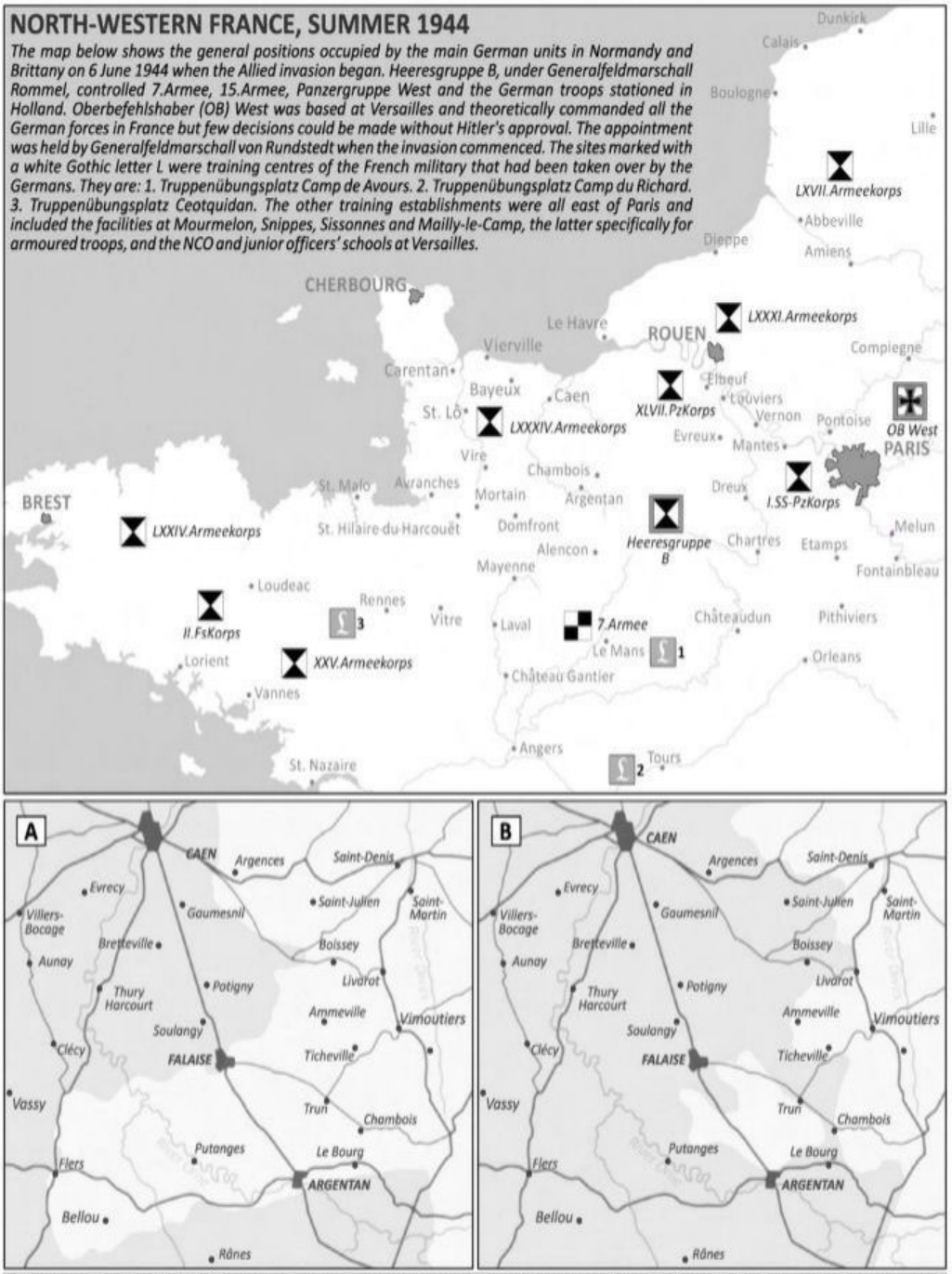
I have repeated some of that information here in order to provide a coherent account but I have expanded on the historical and organisational aspects as so few units are involved. Other aspects, particularly the organisation and employment of the Funklenk radio-controlled units, are covered in detail in *TankCraft 10 Tiger I: German Army Heavy Tank, Southern Front, North Africa, Sicily and Italy 1942-1945.*

It only remains to be said that in view of the relatively small number available and the scope of the battlefield, very few Allied tank crews would have encountered even one of these large and powerful tanks that was not a wreck. Yet its reputation was such that the American and British Commonwealth soldiers fighting in France during the summer of 1944 were certain that every German anti-tank gun they encountered was an 88 and every tank was a Tiger.

Photographed on 16 July 1944 these Pzkpfw VI Tiger ausf B tanks are both from 1.Kompanie, schwere Panzer-Abteilung 503. Most of the tanks allocated to this company featured the two-piece gun barrel, larger muzzle brake and monocular gun sight. The tank nearest the camera, Tiger number 114, is also depicted in the Camouflage & Markings section on page 19. The location is the road leading from the Rue Saint-Jean Baptiste to the Château de Canteloup, about 15 kilometres east of Caen, an area which is still heavily wooded today.

NORTH-WESTERN FRANCE, SUMMER 1944

The map below shows the general positions occupied by the main German units in Normandy and Brittany on 6 June 1944 when the Allied invasion began. Heeresgruppe B, under Generalfeldmarschall Rommel, controlled 7.Armee, 15.Armee, Panzergruppe West and the German troops stationed in Holland. Oberbefehlshaber (OB) West was based at Versailles and theoretically commanded all the German forces in France but few decisions could be made without Hitler's approval. The appointment was held by Generalfeldmarschall von Rundstedt when the invasion commenced. The sites marked with a white Gothic letter L were training centres of the French military that had been taken over by the Germans. They are: 1. Truppenübungsplatz Camp de Avours. 2. Truppenübungsplatz Camp du Richard. 3. Truppenübungsplatz Ceotquidan. The other training establishments were all east of Paris and included the facilities at Mourmelon, Snippes, Sissonnes and Mailly-le-Camp, the latter specifically for armoured troops, and the NCO and junior officers' schools at Versailles.



The maps above show the development of the so-called Falaise Pocket between Caen and Argentan. The darker areas indicate the terrain controlled by the Allied armies. Map A depicts the situation at noon on 17 August 1944, the day von Rundstedt's replacement, Feldmarschall von Kluge, was relieved of the command of both Oberbefehlshaber West and Heeresgruppe B. Map B shows the same area with the territory held by the Allies during the evening of 21 August 1944 when the escape corridor through Trun and Chambois was finally closed for the last time. The timeline set out below and on the following pages gives an outline of the campaign, specifically as it affected the heavy Panzer units.

6 June 1944. *Allied troops land on the Normandy beaches as part of Operation Overlord. Although the defenders are initially slow to react, a number of important first-day objectives, including the town of Caen, remain in German hands as night falls.*

7 June 1944. *The British resume their efforts to capture Caen but are unsuccessful. German counterattacks are stopped by naval gunfire less than 5 kilometres from the invasion beaches. Elsewhere, the Germans are able to deny Carpiquet airfield, to the west of Caen, to the Canadians. The Tigers of schwere SS-Panzer-Abteilung 101, moving towards the invasion front, pass through Paris.*

8 June 1944. *The British and Americans link up north of Bayeux. Due to constant air attacks the tanks of 3.Kompanie, schwere SS-Panzer-Abteilung 101 are forced to return to Paris while the other companies push on towards Normandy.*

9 June 1944. *The Luftwaffe attacks British positions at Lion-sur-Mer and also attempts to destroy the Orne bridges.*

10 June 1944. *German units abandon the town of Tilly-sur-Seulles although it is recaptured the next day.*

11 June 1944. *A determined German counterattack drives the British units out of Tilly-sur-Seulles and also survives a subsequent Allied counterthrust. The last elements of schwere SS-Panzer-Abteilung 102 leave Wezep in Holland for the Normandy Front.*

12 June 1944. *Despite local German successes, British and US Army units are able to link up near Carentan creating a continuous front. Further south the Americans capture Livry about 20 kilometres east of St Lô.*

13 June 1944. *During the early morning, elements of British 7th Armoured Division reach Villers-Bocage, less than 20 kilometres to the south-west of Caen. At 9.00am they are surprised by a platoon of Tiger I tanks from schwere SS-Panzer-Abteilung 101 under the command of Obersturmführer Michael Wittmann and although the Germans eventually withdraw, the British are badly mauled, losing fourteen tanks, two anti-tank guns and a number of halftracks and lorries. This, and other setbacks suffered on the same day, force the British to temporarily halt their attempts to capture Caen.*

14 June 1944. *British units withdraw from Villers-Bocage towards Caumont. On the same day US troops complete the capture of Carentan.*

15 June 1944. *The fighting for Tilly-sur-Seulles continues as 1.Kompanie, schwere SS-Panzer-Abteilung 101 launches an attack into the withdrawing British columns.*

16 June 1944. *German units attack St Honorine on the Caen to Carentan road about 5 kilometres south of Arromanches.*

17 June 1944. *Schwere Panzer-Abteilung 503, in training at Ohrdruf in Germany, reports that its full complement of forty-five tanks has been received.*

18 June 1944. *The tanks of schwere SS-Panzer-Abteilung 102, travelling from Germany, reach Reims in eastern France.*

19 June 1944. *Heavy fighting continues around Tilly-sur-Seulles.*

25 June 1944. *The British commence Operation Epsom, an attempt to outflank the German defenders of Caen and secure the city. After two days of costly fighting Caen remains in German hands although the Allies have gained a foothold on the south bank of the Odon River.*

26 June 1944. *German units launch an attack to the west of Tilly-sur-Seulles. At Le Haut de Mouen, west of Caen, a Tiger of 3.Kompanie, schwere SS-Panzer-Abteilung 101 holds up a tank regiment of the British 11th Armoured Division*

27 June 1944. *The British overrun much of Hill 112, the highest point on the Normandy battlefield, south-west of Caen. Later that day a determined counterattack is made and although initially beaten back, the Germans are in control of the summit as night falls. The commander of schwere SS-Panzer-Abteilung 101 reports that from a total strength of thirty-three tanks just eighteen are considered combat-ready. The Tigers of schwere SS-Panzer-Abteilung 102, constantly harassed by Allied aircraft, reach Châteauneuf-en-Thymerais, still 100 kilometres from the front.*

28 June 1944. *The Tigers of schwere SS-Panzer-Abteilung 101 fail to stop a British advance at Grainville on the Caen to Falaise road, losing two tanks.*

29 June 1944. *Suspecting that a strong counterattack is imminent, all British armoured units around Hill 112 withdraw, allowing the Germans to occupy the area without loss.*

1 July 1944. *Oberbefehlshaber (OB) West decides to slowly abandon Caen and many of the armoured units around the city are gradually transferred further to the west to meet the expected American offensive. To the British and Canadians, Caen remains the focus of attention.*

Photographed during a training exercise prior to the Normandy invasion, this Tiger I of 3.Kompanie, schwere SS-Panzer-Abteilung 101 was commanded by Untersturmführer Thomas Amselgruber and was destroyed on 28 June 1944 during the fighting for Hill 112. The external gun travel lock, visible behind the exhaust covers, was only installed on tanks built between November 1943 and February 1944.

Tiger number 301 of 3.Kompanie, schwere Panzer-Abteilung 503 receiving a coat of camouflage paint. This tank is shown in another, perhaps later, photograph on page 10 where the barrel of the main gun, which is a solid dark colour here, is also camouflaged. Rather unusually the wheels have also been painted. The location given is Germany but it may be the Bois de Vincennes on the eastern edge of Paris were the company was stationed in early August 1944. This vehicle is also shown and discussed on page 19 of the Camouflage & Markings section of this book.

3 July 1944. *After taking part in some of the heaviest fighting of the campaign, 1.Kompanie, schwere SS-Panzer-Abteilung 101 hands its last three tanks over to the battalion's third company and leaves for Germany.*

6 July 1944. *Schwere Panzer-Abteilung 503 suffers its first loss of the campaign when the Tiger of Feldwebel Seidel breaks through a bridge near Mezidon-Canon, south-east of Caen. Although the tank was recovered it was found to be beyond repair.*

8 July 1944. *The commander of schwere SS-Panzer-Abteilung 101 reports that none of his Tigers are operational although maintenance crews are able to repair twenty-one tanks by the end of the following day.*

9 July 1944. *British and Canadian units fight their way into Caen and manage to secure the northern suburbs although the Germans stubbornly cling to the southern half. Throughout the day the first and second companies of schwere SS-Panzer-Abteilung 102 conduct assaults against the British positions around Hill 112 while the battalion's third company is still making its way to the front. Elsewhere, an American advance near Périers, north-west of St Lô, is halted.*

10 July 1944. *A major British offensive captures Hill 112 after heavy fighting.*

11 July 1944. *The Tigers of schwere Panzer-Abteilung 503 go into action for the first time as 3.Kompanie, led by Leutnant Richard Freiherr von Rosen, the acting commander, conducts a counterattack from Couberville towards Colombelles. The tanks of schwere SS-Panzer-Abteilung 102 are in combat between Maltot, Eterville and Fontaine in support of 10.SS-Panzer-Division. The commander of the battalion's 3.Kompanie, Untersturmführer Wilhelm Klust, is sacked after he refuses to advance into a smokescreen. On the same day US troops enter St. Lô.*

16 July 1944. *The few serviceable Tigers of 1.Kompanie, schwere SS-Panzer-Abteilung 102 manage to destroy four British Churchill tanks in a firefight near Maltot on the eastern edge of Hill 112.*

18 July 1944. *The British launch Operation Goodwood, an attack to secure Caen and capture Bourguébus Ridge just south of the town. The Tigers of schwere Panzer-Abteilung 503 are caught in the devastating preliminary bombardment and two tanks are lost to friendly fire. Around Bourguébus the Tigers of schwere SS-Panzer-Abteilung 101 mount a counterattack between Troteval and Hubert-Folie at the crossroads of la Guinguette. In this single day of fighting the British and Canadians lose 100 tanks and by evening the Germans have regained the area between St. Martin, St. André and May-sur-Orne, south of Caen.*

19 July 1944. *Canadian units clear the southern suburbs of Caen. British tanks push on to the south and enter Bras and Hubert-Folie on the outskirts of the town.*

20 July 1944. *3.Kompanie, schwere Panzer-Abteilung 503 hands over its four remaining tanks to 2.Kompanie and begins moving to the training grounds at Mailly-le-Camp, east of Paris, to train on the Tiger II. The tanks of 2.Kompanie, schwere SS-Panzer-Abteilung 102 are temporarily withdrawn from the front. On the same day, at Rastenburg in East Prussia, a group of disaffected German officers make an attempt on Hitler's life.*

22 July 1944. *The commander of schwere SS-Panzer-Abteilung 101 reports that his battalion has just seven operational tanks although as many as eighteen are expected to return from short or long-term repair.*

24 July 1944. *Fourteen serviceable Tigers of 2.Kompanie, schwere SS-Panzer-Abteilung 101 are attached to Kampfgruppe Wünsche for an assault near Imont. Between Maltot and St. Martin, in the continuing fighting around Hill 112, schwere SS-Panzer-Abteilung 102 is able to halt a British attack and destroy eight Churchill tanks.*

25 July 1944. *The US Army's Operation Cobra begins, preceded by an intense aerial bombardment, and meets with almost immediate success. On the same day the Canadians attack German positions south of Caen.*

28 July 1944. *With fourteen operational tanks, schwere Panzer-Abteilung 503 is attached to Kampfgruppe von Oppeln-Bronikowski, an ad-hoc unit made up from elements of 21.Panzer-Division. American troops advance on Coutances, about 40 kilometres west of Saint-Lô, but are held up outside the town.*

1 August 1944. *With just three tanks 2.Kompanie, schwere SS-Panzer-Abteilung 101 attempts to defend Grimsbosq while 3.Kompanie and the battalion headquarters are in action along the Caen to Falaise road about 8 kilometres further east. At Truppenübungsplatz Senne in Germany 1.Kompanie receives the last of its authorised fourteen Tiger II tanks.*

2 August 1944. *Attached to 9.SS-Panzer-Division, the Tigers of schwere SS-Panzer-Abteilung 102 take part in an attack from Estry to the northern outskirts of La Bistiere, 10 kilometres north of Vire, claiming the destruction of twenty-two enemy tanks.*

3 August 1944. *The Tigers of schwere SS-Panzer-Abteilung 101 are in action in the area between St. Sylvain and Cintheaux, about 10 kilometres south of Caen.*

4 August 1944. *Hill 112 is occupied by British units after the German defenders abandon their positions for the last time. With the evacuation of Caen the hill loses its strategic significance.*

5 August 1944. *The last tanks of 1.Kompanie, schwere SS-Panzer-Abteilung 101 leave Germany for the Normandy Front.*

6 August 1944. *Just before midnight, the Germans launch Operation Lüttich, an ambitious attack intended to blunt the US Army's Cobra offensive and retake Avranches. Aided by the weather, the Panzers make some early tactical gains, including the capture of Mortain. However, they are met by scores of Allied fighter-bombers by mid-morning.*

7 August 1944. *The tanks of 2.Kompanie, schwere SS-Panzer-Abteilung 101 support the grenadiers of 12.SS-Panzer-Division in retaking Grimsbosq.*

8 August 1944. *Hauptsturmführer Michael Wittmann, the acting commander of schwere SS-Panzer-Abteilung 101, is killed near Gaumesnil on the Caen to Falaise road while leading another six of the battalion's tanks. Wittmann's fame was such that the German authorities carried him as missing for some months and never admitted that he was the victim of an Allied tank, preferring to credit his death to a fighter-bomber. The German units which had advanced past Mortain towards Saint-Hilaire-du-Harcouët find themselves in danger of encirclement. On the same day the British begin a major offensive codenamed Totalise which sees fresh Canadian and Polish units attacking towards Falaise in an effort to trap the German formations now being pushed eastwards by the Americans. During the late afternoon the Americans occupy Le Mans.*

10 August 1944. *The Tigers of 3.Kompanie, schwere SS-Panzer-Abteilung 101 repulse a Canadian assault near Cintheaux, claiming the destruction of thirty-eight Allied tanks.*

11 August 1944. *The tanks of schwere Panzer-Abteilung 503 are employed in Normandy for the last time as two Tigers defend the area east of St. Pierre against thirty Allied tanks. Both vehicles were disabled in this action. In an attempt to intercept the German units withdrawing after Operation Lüttich, the British mount an attack towards Moncy on the Vire to Saint-Germain-du-Crioult road and towards Mont de Cerisy. Meeting fierce resistance, the attack bogs down at Le Val after advancing just 800 metres.*

12 August 1944. *Attacking in complete darkness, three Tigers of 2.Kompanie, schwere SS-Panzer-Abteilung 101 surprise a Canadian armoured company as it is refuelling and destroy most of the enemy tanks.*

13 August 1944. *The five Tiger II tanks of Panzer-Kompanie (Funklenk) 316 arrive at Châteaudun and are deployed in the defence of the town. The last German units withdraw from Mortain.*

14 August 1944. *The remaining tanks of 2.Kompanie, schwere SS-Panzer-Abteilung 101 under Oberscharführer Brand destroy nineteen Canadian tanks as they attempt to cross the Laizon River near Rouvres.*

15 August 1944. *A single Tiger of 1.Kompanie, schwere SS-Panzer-Abteilung 102 repels an enemy attack at Versainville, north-east of Falaise.*

17 August 1944. *Canadian troops enter Falaise, threatening the German Army in Normandy with encirclement. The following morning the Canadians capture Trun, 10 kilometres east of Falaise on the Argentan to Vimoutiers road.*

Commanded by Oberscharführer Martin Schroif, this late production Tiger I is camouflaged in broad strokes of Rotbraun and Olivgrün over the base coat of Dunkelgelb. This scheme, with slight variations, was common to the tanks of schwere SS-Panzer-Abteilung 102. This tank is also shown and discussed on page 26 of the Camouflage & Markings section of this book.

Abandoned just outside Châteaudun, this Tiger II of Panzer-Abteilung (Funklenk) 316 displays a number of features of the initial production versions including the armoured cover for the deep-wading equipment on the rear deck, the binocular gun sight, the single-piece barrel and the lack of track hangers on the turret sides.

8 August 1944. *The Tigers of 1.Kompanie, schwere SS-Panzer-Abteilung 102 beat back a British assault at Abbaye and withdraw towards Vignats, 7 kilometres south-east of Falaise. The battalion commander, Obersturmbannführer Hans Weiss, is captured near Trun after being badly wounded. Late that night the last tank of Panzer-Kompanie (Funklenk) 316 is abandoned outside the village of Toury.*

19 August 1944. *Two Tigers of schwere SS-Panzer-Abteilung 101 support a breakout by the survivors of 3.Fallschirmjager-Division from the Falaise Pocket. Polish armoured units link up with US troops at Chambois just south of Mont Ormel as evening approaches. With three serviceable tanks 1.Kompanie, schwere SS-Panzer-Abteilung 102 is ordered to fight its way through to Nécy, about 10 kilometres south of Falaise, but only the Tiger of Hauptsturmführer Alois Kalss, the company commander, is able to reach the town.*

20 August 1944. *Throughout the day the Germans mount a series of attacks from outside the pocket towards the Polish positions on Mont Ormel and manage to open an escape corridor by noon. Within a few hours approximately 10,000 Germans are able to escape from the Falaise Pocket. Tiger 213 of schwere Panzer-Abteilung 503 reaches Bourgtheroulde, less than 5 kilometres from the Seine, and is destroyed by its own crew. The remaining tanks of the battalion's 2.Kompanie are abandoned near Vimoutiers.*

21 August 1944. *During the early evening Polish and Canadian troops meet at Coudehard, north-east of Trun, closing the German escape route for the last time. Any German units not trapped at Falaise are now in headlong retreat towards the Seine.*

23 August 1944. *The Tiger II tanks of 1.Kompanie, schwere SS-Panzer-Abteilung 101 go into action for the first time when four tanks support a counterattack near Guitrancourt north-west of Paris.*

24 August 1944. *Leutnant von Rosen, returning from convalescent leave, arranges for the two Tiger II tanks of schwere Panzer-Abteilung 503 which had been left at Mailly-le-Camp to be evacuated to Germany. These vehicles were early production models fitted with the Krupp turret and both later served with the battalion's 3.Kompanie on the Eastern Front.*

25 August 1944. *The second and third companies of schwere SS-Panzer-Abteilung 101 reach the Seine at Elbeuf and Rouen and although eleven tanks are ferried across the river, three are later abandoned. Two Tiger II tanks, both early production vehicles with the Krupp turret, of schwere Panzer-Abteilung 503 are taken over by 1.Kompanie, schwere SS-Panzer-Abteilung 101. A Tiger of 1.Kompanie, schwere SS-Panzer-Abteilung 102 is lost when it tries to cross the Seine using its deep wading equipment. Paris, the last objective of Operation Overlord, is liberated.*

26 August 1944. *Tanks of 1.Kompanie, schwere SS-Panzer-Abteilung 101 support an attack against the American bridgehead near Limay. One of the early production Tigers, formerly with schwere Panzer-Abteilung 503, is abandoned outside Meulan-en-Yvelines.*

28 August 1944. *Two Tigers of 2.Kompanie, schwere SS-Panzer-Abteilung 101 support a counterattack at Vernon, north-west of Mantes-la-Jolie. A Tiger of schwere SS-Panzer-Abteilung 102 falls from the ferry that is carrying it across the Seine and cannot be recovered. The battalion reports that it has five serviceable tanks.*

30 August 1944. *After running out of fuel two Tigers of schwere SS-Panzer-Abteilung 101 are disabled by their crews while another is knocked-out by an American Sherman tank near St. Quentin. A further two are simply abandoned. To the west, around Rouen, the last German troops cross the Seine leaving much of their heavy equipment behind.*

1 September 1944. *The last Tiger of schwere Panzer-Abteilung 102 is abandoned by its crew at Genval, south-east of Brussels.*

3 September 1944. *The last two Tiger II tanks of 1.Kompanie, schwere SS-Panzer-Abteilung 101 engage an American armoured force near the village of Brunehamel close to the Belgian border, destroying several vehicles.*

5 September 1944. *Tiger 121 of 1.Kompanie, schwere SS-Panzer-Abteilung 101, commanded by Oberscharführer Fritz Zahner, is disabled by its crew outside la Capelle, east of Saint-Quentin. The battalion's last surviving Tiger II manages to reach Germany and is transferred to the SS-Panzer-Ersatz-Abteilung at Augustdorf.*

Photographed in the town of Marle, south-east of Saint-Quentin, in August 1944 this mid production Tiger I has been associated with several different units including schwere SS-Panzer-Abteilung 101 and Panzer-Kompanie (Funklenk) 316. Another possible candidate is suggested on page 17 of the Camouflage & Markings section.

By the summer of 1944 the role of the German tank and armoured infantry formations, the Panzertruppen, had changed dramatically from the heady days of the Blitzkrieg when spectacular advances had been made over immense distances in a matter of days. Although the Germans were capable of mounting localised counteroffensives, often with great success, the operations conducted by all arms of the Wehrmacht were now purely defensive in nature. But, just as the Panzers had proven to be a key ingredient that ensured the successes of the early war years, so the tanks now played a significant, possibly essential, role in the strategy of stubborn defence and determined counterattack. An important element of this concept was the independent heavy tank units equipped with the Tiger I, and from March 1944, the Tiger II tank (1).

The early history of these tanks and the units which operated them is described in some detail in *Tiger I & Tiger II Tanks: German Army Heavy Tank Eastern Front, Summer 1943* but some mention of the way in which these formations were organised may be helpful here. The first heavy tank units were created as schwere Panzer-Kompanie 501 and schwere Panzer-Kompanie 502 in February 1942 but within less than two months the decision had been made to organise the new tanks into independent battalions controlled by Corps or Army level commands. The first battalions, formed in May 1942, were made up of thirty-two Pzkpfw III tanks and twenty Tigers. By the end of the same year, after some minor changes, each battalion was organised with a Stabskompanie, or Headquarters company, with two Tigers and one Pzkpfw III, with an attached light company of five Pzkpfw III tanks. The battalion's two tank companies were each controlled by a headquarters troop of a single Tiger and two Pzkpfw III tanks and contained four platoons of two Tigers and two Pzkpfw III. On 5 March 1943 a complete reorganisation saw the light tanks removed and the companies reduced to three platoons of four Tigers each (2).

The number of companies in a battalion was, however, increased to three meaning that a complete schwere Panzer-Abteilung could field forty-five tanks. Beginning in early 1944 a system referred to in German as Freie Gliederung, which translates roughly as free organisation, was gradually introduced throughout the army. In practical terms this meant that transport elements were removed from company commands and concentrated at battalion or regimental level and the tables of organisation introduced in June 1944 reflect this.

By the spring of 1944 the army could field nine heavy tank battalions equipped with Tiger tanks while a tenth was formed at Paderborn in Germany on the very day the Allies landed in Normandy. In addition two of the heavy companies that had been formed for the Waffen-SS were upgraded to full battalions. Although most arrived late to the fight, the heavy Panzer units played an important role in the defence of the Normandy bridgehead, particularly around Caen and the attempts to hold open the Falaise Pocket, and it is indicative of the ferocity of the fighting that the three battalions and one independent company that took part in these battles reported the loss of 142 Tigers totally destroyed between June and August 1944, which is to say, almost every tank on hand.

Notes

1. Although the terms Tiger I and Tiger II are not strictly correct, they are universally familiar and I have used them throughout this narrative as a matter of convenience. The official titles are recorded in the Technical Details & Modifications section of this book.

2. Many field commanders considered it a mistake when the light tanks were eventually dropped from the battalion table of organisation as the heavy Tigers were now often forced to conduct their own reconnaissance, a task for which the light tanks were far more suitable.

Notes

1. The development of the Tiger and the competing designs are examined in detail in *Tiger I and Tiger II: Tanks of the German Army and Waffen-SS, Eastern Front 1944.*

2.These features are explained further in the Technical Details & Modifications section of this book.

3. This was in fact the first of the battalion's tanks that was lost on the Western Front. The first personnel loss was incurred on 28 June when Unteroffizier Otto Oelsner of 1.Kompanie was killed in an accident as the battalion was transported by rail to the front.

The following are short operational histories of the Tiger units which took part in the fighting in northern France and Belgium during the summer of 1944.The later histories of some of the battalions listed here are covered in *Tiger I and Tiger II Tanks: German Army and Waffen-SS, The Last Battles in the West, 1945.*

Schwere Panzer-Abteilung 503. Formed on 16 April 1942, and made up of personnel drawn from Panzer-Regiment 5 and Panzer-Regiment 6, this battalion trained briefly on the Porsche Tiger before the decision was made to manufacture the Henschel version (1).

Originally intended for service in North Africa, the battalion was sent to the Eastern Front in January 1943 and took part in the defensive battles following the retreat from the Caucasus and in July was attached to Armeeabteilung Kempf during Operation Citadel with the first, second and third companies attached to 6.Panzer-Division, 19.Panzer-Division and 7.Panzer-Division respectively. In August the battalion took part in the heavy fighting in what is today eastern Ukraine and by the end of September all thirty-nine Tigers were with repair workshops. By late April all but seven tanks had been lost, including twenty-one vehicles captured when the battalion's maintenance facilities were overrun. In May the battalion was withdrawn from the front and ordered to Germany and the surviving tanks were handed over to schwere Panzer-Abteilung 509.

By 17 June 1944 the battalion had been completely rebuilt at Truppenübungsplatz Ohrdruf in Germany. The first company contained twelve Tiger II tanks, of which all but one were fitted with the early Krupp turret, while the second and third companies were both equipped with late production Tiger I tanks. These were characterised by the steel-tyred roadwheels, the thicker armoured turret roof and notches cut into the hull front extensions. Most, if not all, were fitted with sockets, or Pilze, on the turret roof to accommodate the 2-ton jib boom indicating that they were assembled at some time in June 1944 (2). All thirty-three Tiger I tanks were shipped by the Heereszeugamt between 11 and 17 June 1944.

On 26 June the battalion left Ohrdruf for France and exactly one week later the last railway transports arrived at Dreux, 60 kilometres west of Versailles on the road to Argentan. From there the tanks made their way towards the front on their own tracks and on 6 July 1944 the battalion suffered its first casualty when Tiger number 323 commanded by Feldwebel Hermann Seidel broke through a bridge near Mezidon, south-east of Caen, falling onto a railway track. Although it was recovered the tank had been so extensively damaged that it could not be repaired (3).

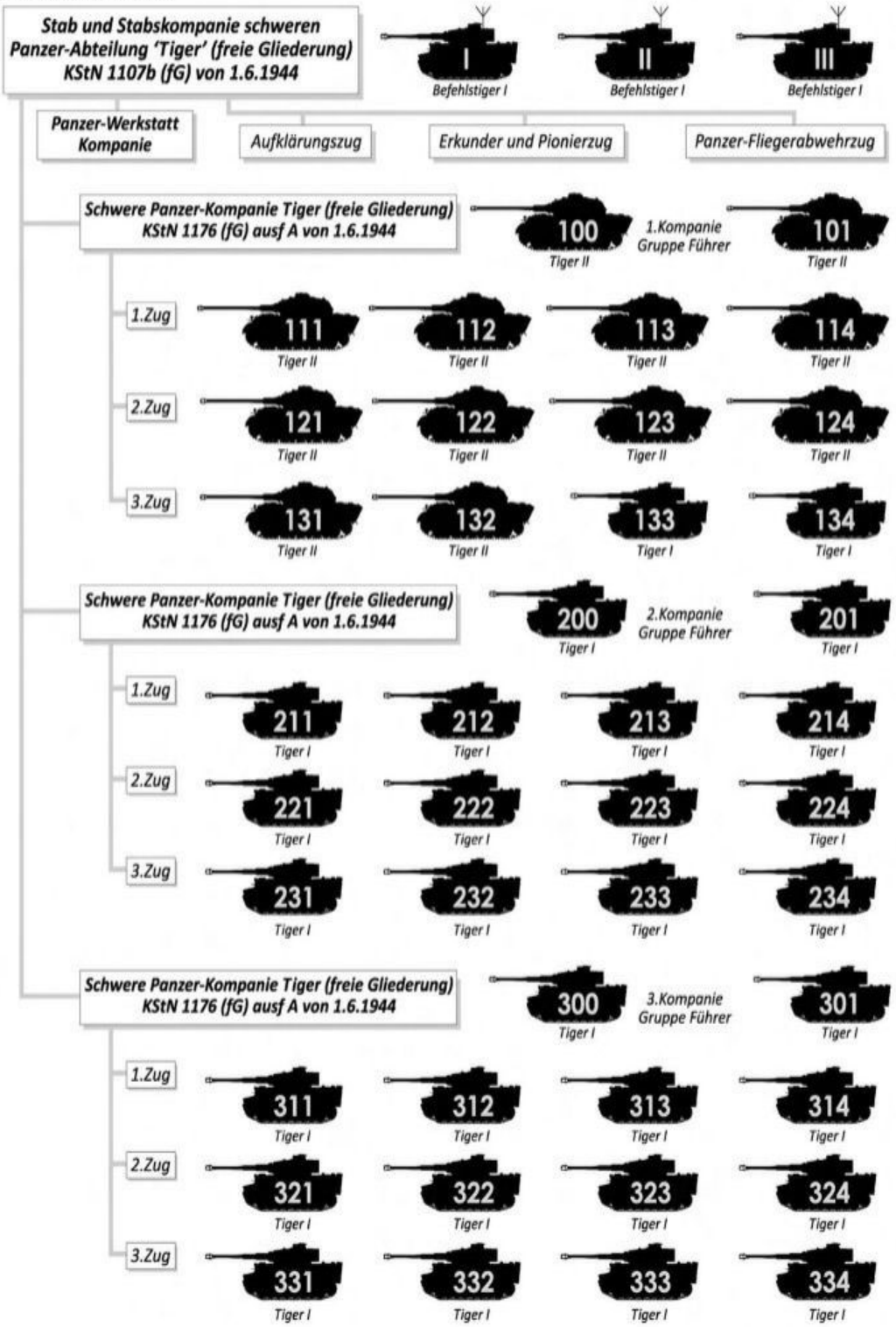
On 11 July the battalion went into action for the first time when 3.Kompanie under Leutnant von Rosen launched a counterattack from Couberville toward Colombelles where the Tigers were able to destroy twelve M4 Sherman tanks and capture another two. One of the captured tanks was used by the company as a recovery vehicle for some time. On 18 July 1944 the British launched Operation Goodwood, an assault to secure Caen and to capture the Bourguébus Ridge south of the town. Caught in the devastating preliminary air strike, the battalion's third

.....continued on page 10

The late production Tiger I nearest the camera has been identified as number 224 of 2.Kompanie, schwere Panzer-Abteilung 503 while the tank in the background is Tiger number II of the battalion Stabskompanie. The battalion's records mention that both were abandoned on 24 August near the town of Caudebec, although this is probably Caudebec-lès-Elbeuf. In his history of Schwere Panzerjäger-Abteilung 654, German author Karl-Heinz Münch mentions that the survivors of the Jagdpanther battalion and a number of Tigers from schwere Panzer-Abteilung 503 crossed the Seine there during the night of 23 August.

SCHWERE PANZER-ABTEILUNG 503, JUNE 1944

All formations of the German Army were organised according to detailed tables of establishment referred to as Kriegstärkenachweisung (KStN) which showed the official composition of a unit, listing the exact number of personnel and type of equipment from vehicles to small arms. Schwere Panzer-Abteilung 503 had been reorganised in March 1943, when the heavy Panzer battalions were increased to a strength of three companies, using Stabskompanie schweren Panzer-Abteilung 'Tiger' KStN 1150 ausf e von 5.3.1943 for the headquarters with the companies built around schwere Panzer-Kompanie KStN 1176 ausf e von 5.3.1943. However, as the battalion was rebuilt during the first weeks of June 1944 it is almost certain that the organisation shown below was adopted. The concept of freie Gliederung, or free organisation, which was introduced at that time, saw many support elements, such as transport and supply units, transferred from company to battalion or regimental command. Although the terms Tiger I and Tiger II are not strictly correct I have used both here as a matter of convenience as I am sure they will be familiar to most readers.



.....continued from page 8

company was hit particularly hard while 2.Kompanie was barely affected and managed to conduct a number of local counterattacks, stopping the enemy north-west of Troarn. The Tigers of 1.Kompanie supported the tanks of Panzer-Regiment 22 and reached Demouville, today an outer suburb of Caen, but were forced to abandon the village in the early afternoon. By the end of the day the battalion had lost thirteen tanks and 1.Kompanie reported that just one serviceable Tiger was on hand.

On 19 July the battalion was again involved in heavy fighting between Troarn and the village of St Pair and on the following day the tank crews of 3.Kompanie handed over their remaining four tanks to the battalion's second company and were transferred to Truppenübungsplatz Mailly-le-Camp, east of Paris. On the last day of the month 3.Kompanie received fourteen Tiger II tanks, twelve of which were fitted with the Krupp turret (1).

The two companies that remained at the front were attached to a Kampfgruppe made up principally from elements of 21.Panzer-Division and led by Oberst Hermann von Oppeln-Bronikowski, the commander of the division's Panzer-Regiment 22. On 11 August 1944 two Tigers of the battalion took part in a defensive action near Saint-Pierre-la-Vieille, east of the Caen to Flers road, holding off over thirty Allied tanks and claiming the destruction of three, although both Tigers were immobilised and apparently abandoned. This action would mark the last occasion on which the tanks of the battalion's first and second companies were engaged in combat in Normandy. From this point the surviving tanks and their crews were in headlong retreat and concerned primarily with their own survival. On the same day the tanks of3.Kompanie, after completing their training at Mailly-le-Camp, begin moving towards the front.

On 12 August 1944 the last tanks of 3.Kompanie were unloaded in Paris and two days later paraded through the city on their way to the front. Hauptmann Scherf had returned to lead the company by this time and the Tigers supported the infantry of 18.Luftwaffe-Feld-Division in a series of attacks on the American bridgehead at Mantes-la-Jolie and lost most of the vehicles to fighter-bomber attacks.

On 20 August 1944 Tiger number 213 reached the town of Bourgtheroulde, just 5 kilometres from the Seine crossing at La Bouille, and was destroyed by its crew later that afternoon. This tank is depicted on page 18 of the Camouflage & Markings section of this book

In his account Oberst Wolfgang Schneider states that on the same day three of the battalion's Tiger I tanks that had been repaired were abandoned on their railway flatcars at Braine, north-west of Reims, but Allied units were still far to the west at this time. The records of US 3rd Armored Division mention the incident as occuring on 28 August, which is almost certainly correct, and states that the Tiger crews fled when they were fired upon by an advance American unit (2). The remaining tanks of 2.Kompanie ran out of fuel or broke down between Vimoutier and Canapville, less than 5 kilometres to the north-east.

Two tanks of 3.Kompanie had been left at Mailly-le-Camp and thanks to the efforts of Leutnant von Rosen and Feldwebel Seidel these were both successfully evacuated to Germany.

Notes

1. Only Tiger 300 and Tiger 301 were assembled with the Seriesturm, the so-called Henschel turret.

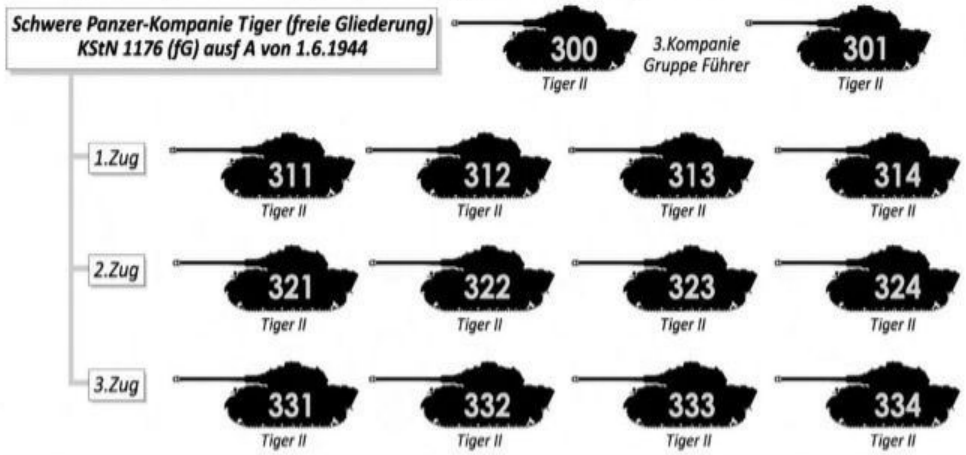
2. Almost every account of this affair differs in the date, the circumstances in which the tanks were captured and even the type of tanks encountered but all are agreed on the location. Interestingly, Leutnant von Rosen makes no mention of it in his history of the battalion.

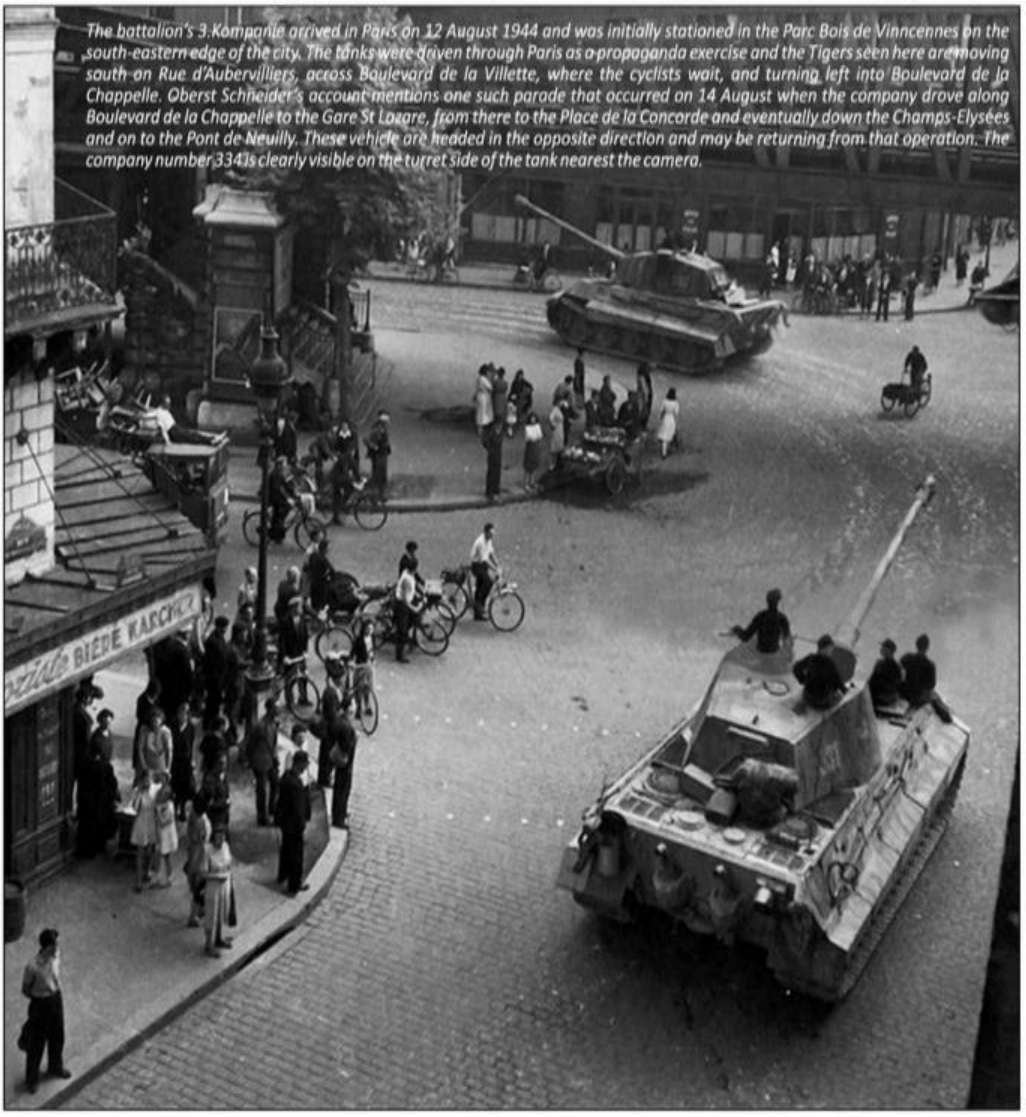
At left: One of perhaps five Tiger II tanks of 3.Kompanie, schwere Panzer-Abteilung 503 fitted with the Production turret as mentioned in the main text. Commanded by Feldwebel Claus Neeb, this vehicle was destroyed on 28 August 1944 at Sailly after receiving ten direct hits.

At right: A Tiger II of 1.Kompanie, schwere Panzer Abteilung 503 photograped in Le-Plessis-Grimoult, south of Caen, on 10 August 1944. Schneider records this as Tiger number 133 and concurs with the British claim that it was disabled by a nearby explosion.

3.KOMPANIE, SCHWERE PANZER-ABTEILUNG 503, AUGUST 1944

In late July the battalion's 3.Kompanie was withdrawn from the front and sent to the training grounds at Mailly-le-Camp and re-equipped with fourteen new Tiger II tanks. Although most accounts, including that of Leutnant Richard Freiherr von Rosen who served as a platoon commander with 3.Kompanie, state that all were early-production models fitted with the Krupp turret except for the two company headquarters tanks, as many as five may have been assembled with the so-called Henschel, or Serien-Turm, turret. Confirmed cases are Tiger 300 and Tiger 301, as mentioned in the main text, and Tiger 331 shown in our photograph below. Probables include Tigers 311 and either 321 or 333. Examples of both type are shown on page 19 of the Camouflage & Markings section of this book.





The battalion's 3.Kompanie arrived in Paris on 12 August 1944 and was initially stationed in the Parc Bois de Vinncennes on the south-eastern edge of the city. The tanks were driven through Paris as a propaganda exercise and the Tigers seen here are moving south on Rue d'Aubervilliers, across Boulevard de la Villette, where the cyclists wait, and turning left into Boulevard de la Chappelle. Oberst Schneider's account mentions one such parade that occurred on 14 August when the company drove along Boulevard de la Chappelle to the Gare St Lazare, from there to the Place de la Concorde and eventually down the Champs-Elysées and on to the Pont de Neuilly. These vehicle are headed in the opposite direction and may be returning from that operation. The company number 334 is clearly visible on the turret side of the tank nearest the camera.

A late production Tiger I tank of 3 Kompanie, schwere Panzer-Abteilung 503 disabled during the bombardment that preceded Operation 'Goodwood' on 18 July 1944, although some sources state that the company was almost completely destroyed here – only two tanks were lost.

Photographed on the railway line at Broine between Soisson and Reims, well to the east of Paris, this late production Tiger I was captured, with three others, when the train was stopped on the morning of 29 August by elements of the US 32nd Armored Regiment. It is almost certain that these vehicles are the survivors of 2 Kompanie which took over all the third company Tiger I tanks at the end of July.

Panzer-Kompanie (Funklenk) 316. Originally formed in April 1943, this unit was part of Panzer-Versuchs-Ersatz-Abteilung 300, based at Eisenach in central Germany, which was used to form the companies that deployed remotely-controlled demolition vehicles.

In early January 1944, while still in training at Fallingbostel, the company was incorporated into Panzer-Lehr-Regiment 130 and was placed under the direct control of the regimental headquarters. On 4 February 1944 an order was issued that the company was to be organised using KStN 1176f and that it would be equipped with fourteen Tiger II tanks which were at that time just entering production (1).

In the same month the commander of Panzer-Lehr-Division requested that the company should be re-equipped with Sturmgeschütz III assault guns as these were considered far more mechanically reliable than the Tiger but his advice seems to have been largely ignored.

A number of the company's personnel were transferred to Paderborn to train on the Tiger I and on 14 March 1944 the company was allocated the first five Tiger II tanks to leave the assembly line. The latter Were all fitted with the Krupp-produced turret (2) and other early production features including the armoured cover for the deep-wading equipment. Within a week the entire company was transferred to Lake Neusiedl, south-east of Vienna, and then to Truppenübungsplatz Bruckneudorf near Bruck an der Leitha, reporting on 2 April 1944 that five Tiger II and three Tiger I tanks were on hand. It should be remembered that Panzer-Lehr-Division was heading to Hungary at this time and this probably accounts for the company's move to southern Austria.

When the division returned to France the company was hastily transported to Verdun, arriving on Tuesday, 9 May 1944.

From this point Oberst Wolfgang Schneider, in his authoritative account of the Tiger units, makes no further mention of the Tiger I tanks and the implication is that only the five Tiger II vehicles were transported to the West. Indeed, there is no specific mention of an allocation of Tiger I tanks to this unit in the lists prepared for the Generalinspekteur der Panzertruppen and Helmut Ritgen, who served with Panzer-Lehr-Division, has stated that none were on hand in Normandy. However, the turret numbers assigned to the Tiger II tanks (3) would suggest that the company possessed at least some other armoured vehicles and a divisional Zustandsbericht, or status report, of 1 June 1944 mentions eight Tigers but gives no breakdown. This

Notes

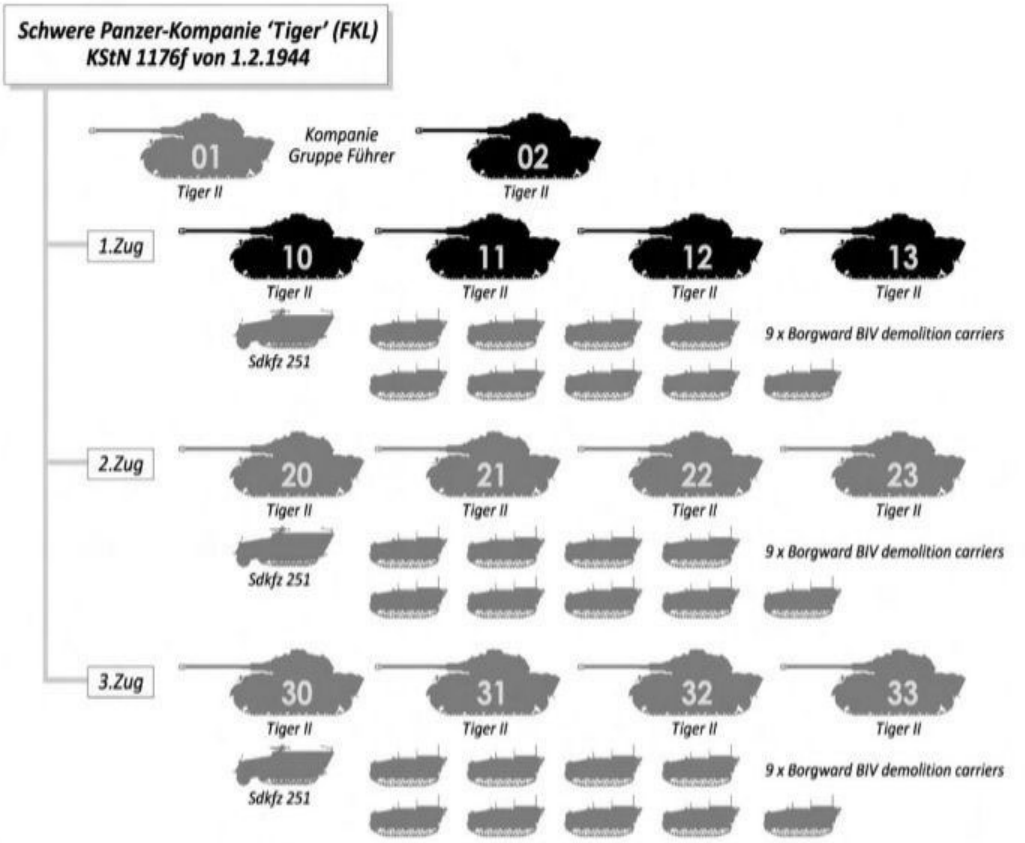
1. Jentz is unusually contradictory on the establishment of the company citing both KStN 1176c dated 1 November 1943 and KStN 1176f of 1 February 1944. Although a copy of the former does not seem to have survived the war, the tables were probably very similar and it is entirely possible, given the company's history, that both were stipulated at different times.
2. Commonly, but incorrectly, referred to as the Porsche turret. These tanks were shipped from the Heereszeugamt on 15 March 1944.
3. The tanks were all marked, probably in May 1944, with large white numbers as 02, 10, 11, 12 and 13. The latter was at one time thought to be 1 but this has since been disproved.

Photographs of the tanks of this unit are rare and usually of poor quality but do seem to show the same handful of vehicles. At left: Tiger 02. In the original print a thin dark outline can seen on the turret number. Note the exhaust shields and the armoured cover for the deep-wading gear. Below: Tiger 12 photographed in Châteaudun in mid-August 1944.

At left: The mysterious Tiger 03 disabled near Nogent-le-Rotrou and described in the Camouflage & Markings section on page 20. The track hangers on the turret side and the Pilze sockets on the turret roof identify this as a later production model, probably built in June 1944.

PANZER-KOMPANIE (FUNKLENK) 316, SUMMER 1944

The chart below shows how the establishment of the company would have appeared if the organisation had been completed with a full complement of fourteen Tiger II tanks. As mentioned in the text there were almost certainly a number of Tiger I tanks and Sturmgeschütz III assault guns on hand but there is not enough surviving information to show the actual make-up here. The vehicles that have been confirmed by photographic evidence are shown as black silhouettes while the numbering system is that suggested by Oberst Wolfgang Schneider. According to the KStN each platoon was allocated one Sdkfz 251 halftrack and nine BIV carriers. In a full battalion the Sondergerat, or company reserve, held another nine carriers.



Notes

1. These towns are both close to the main railway line from Le Mans to Paris. Tiger 11 and Tiger 13 had broken down by this time and could not be repaired.
2. This was a French military facility just outside Le Mans which had been appropriated by the Germans. Some of the early training of Panzer-Lehr-Regiment 130 took place here.

may include the three Tiger I tanks mentioned in an April 1944 report and it is also possible that some effort was made to complete the company's establishment with Sturmgeschütz III assault guns but insufficient information has survived to make any definitive statements. The late Thomas Jentz, who spent many years researching Germany's armoured formations, states that Panzer-Lehr-Division had three Tigers and nine assault guns on hand in June 1944 but gives no further details.

Within ten days of their arrival in the West the Tigers had experienced so many mechanical problems that the division's commander suggested that they be returned to Germany or simply destroyed to prevent their possible capture in the anticipated Allied invasion.

On 15 July 1944 the tanks were deleted from the inventory of the Panzer-Lehr-Division and the crews were assigned to 1.Kompanie, Panzer-Abteilung 302 (Funklenk) and transferred to Reims and issued with new Sturmgeschütz III assault guns. By mid-August 1944 the five Tigers had been transported by rail only as far as the area between Nogent le Rotrou and Châteaudun on the western edge of the Eure et Loire region and although two tanks were no longer mobile they were all thrown into the defence against the advancing Americans (1).

It is quite possible, although far from certain, that the tanks were manned by the staff or trainee tank crews of Truppenübungsplatz Camp de Avours which were being evacuated through this area (2).

In any case the five original Tigers were all lost in the defence of Châteaudun and near Toury, some 30 kilometres to the east, between 13 and 18 August 1944. As mentioned in the Camouflage & Markings section the Tiger II tank numbered 03 is something of a mystery. Photographed in Nogent-le-Rotrou on the northern side of the Le Mans to Paris railway line it may have had some connection to the Châteaudun Tigers but is a much later production model and was certainly not with the company when the tanks were attached to Panzer-Lehr-Division.

Tank commanders of schwere SS-Panzer-Abteilung 101 photographed during a training exercise prior to the Normandy invasion. The officer facing towards the camera in the camouflage overalls is Heinz von Westernhagen, the battalion commander. The 3.Kompanie tank in the background was commanded by Untersturmführer Alfred Günther.

In November 1942 heavy tank companies were raised for SS-Panzer-Regiment 1, SS-Panzer-Regiment 2 and SS-Panzer-Regiment 3, all of which were fighting on the Eastern Front at the time.

The early history of these units is rather complicated and sometimes confusing and as it is examined in some detail in *Tiger I & Tiger II Tanks: German Army and Waffen-SS Eastern Front, 1944* and *Tiger I: German Army Heavy Tank Eastern Front, Summer 1943* I have only covered it briefly in this book. The company formed for SS-Panzer-Regiment 3 was never raised to battalion strength but as it served exclusively in the East it need not concern us here.

An order dated 22 April 1943 directed that the three Waffen-SS heavy Panzer companies be amalgamated to become schwere SS-Panzer-Abteilung under the direct command of I.SS-Panzerkorps, however, the order was never fully implemented as the commander of the Adolf Hitler division, Obergruppenführer Josef Dietrich, simply refused to relinquish any of his men or tanks.

Schwere SS-Panzer-Abteilung 101. This battalion had its origins as a fourth, heavy company formed for SS-Panzer-Regiment 1 with the company's personnel drawn from the regiment's own establishment.

At some time prior to the Kursk offensive the heavy company was renamed as 13.Kompanie, SS-Panzer-Regiment 1 and on 19 July 1943, in what would appear to be a compromise between the 22 April directive and the wishes of the division commanders, an order was issued for the creation of a complete heavy battalion for I.SS-Panzerkorps. The situation at the front delayed the formation of the new battalion for some time and although the headquarters and support elements trained in Germany through late 1943, where a new third company was raised, the serviceable Tigers remained in Russia. It was not until 14 April 1944 that the surviving tanks were handed over to the maintenance units of LIX.Armeekorps and within two days the last of the Tiger crews left for the West.

In his extensive account of the Tiger battalions Oberst Wolfgang Schneider states that ten Tigers were picked up from Magdeburg in Germany during the last days of October 1943 and that on 2 November a further ten tanks were halted on their transports at Lemberg, modern-day Lviv in western Ukraine, and shipped to the battalion at Paderborn giving an on-hand total of twenty. He also mentions that two of these vehicles were Befehlstiger command tanks and that the remaining eighteen were allocated to 3.Kompanie which was able to form four platoons (1). These tanks were all mid production types with the cast commander's cupola and rubber-rimmed roadwheels. In April 1944 another twenty-five tanks were received and these would be the last Tiger I tanks allocated to the battalion, giving a total of forty-five. Most sources quote these numbers.

Frustratingly, these figures do not tally with the official reports prepared for the Generalinspekteur der Panzertruppen. Those records show that a single tank (2) was shipped on 16 October 1943 followed

Notes

1. The latter was only a temporary arrangement and in March 1944 the fourth platoon was used to build 1.Kompanie.
2. Interestingly, this tank, Fahrgestellnummer 250455, was intended for export to Japan but no means of transporting it could be found. Schneider also mentions this as being delivered in October 1943.

by another ten at the end of the month. There are no further shipments until January 1944 when the reports show that eight tanks were allocated by the Heereszeugamt with another ten dispatched in February but these are all recorded as being sent to 1.SS-Panzer-Division which was still fighting in the East. Oberst Schneider states that the division's Panzer-Regiment 1 received no replacements in January and just eleven Tigers in total in the following month and not the eighteen mentioned here. The twenty-six tanks that were shipped by the Heereszeugamt between 17 and 20 April 1944, by which time all the crews had returned from the East, give a total of thirty-seven Tigers recorded as being despatched to the battalion in western Europe, a shortfall of eight tanks.

I can offer no explanation regarding the discrepancy but it is interesting that thirty-seven is the operational figure given for 1 June 1944 by Schneider. It is possible that as many as seven tanks from the January and February shipments sent to the Eastern Front were diverted to Germany but that cannot be confirmed and is merely speculation on my part. It should also be mentioned that the Heereszeugamt reports represent vehicles despatched and not necessarily received. All the tanks delivered in April 1944 were late production versions with the steel-tired roadwheels, thicker turret roof, new loader's hatch and monocular gun sight.

When the Allies landed in Normandy the battalion was in a forward training area around Beauvais, just over 85 kilometres east of Rouen, and on the following day began moving towards the front. By the evening of 12 June 1944 the last tanks of the battalion had arrived and the Tigers were posted on the left flank of I.SS-Panzerkorps between Montbrocq and Villers-Bocage.

Early the next morning a column from the British 22nd Armoured Brigade approached Villers-Bocage and passing through the town, stopped at Point 213, just to the south. Assured by local civilians that there was no opposition in the area many of the British soldiers had left their vehicles and were smoking and chatting. Their commander was less sanguine and had requested that an adequate reconnaissance be carried out but was ordered to push on instead. At his command post some 150 metres away Obersturmführer Michael Wittmann, the commander of the battalion's 2.Kompanie, was informed by an army Feldwebel of the British presence. On that morning Wittmann had five Tigers (1) of his company and a single Pzkpfw IV tank from Panzer-Lehr-Regiment 130 at his disposal.

Wittmann decided, for reasons that have never been satisfactorily explained, to move forward alone and took command of Tiger 234 but almost immediately sensed that it was not mechanically sound and commandeered what most accounts assume to be Tiger 222, although Wittmann described it merely as 'Unterscharführer Kurt Sowa's tank'. Just before 8.30am Wittmann approached Villers-Bocage from the east and entered the main street, Rue Georges Clemenceau, near the corner of Rue Richard Lenoir (2).

.....continued on page 49

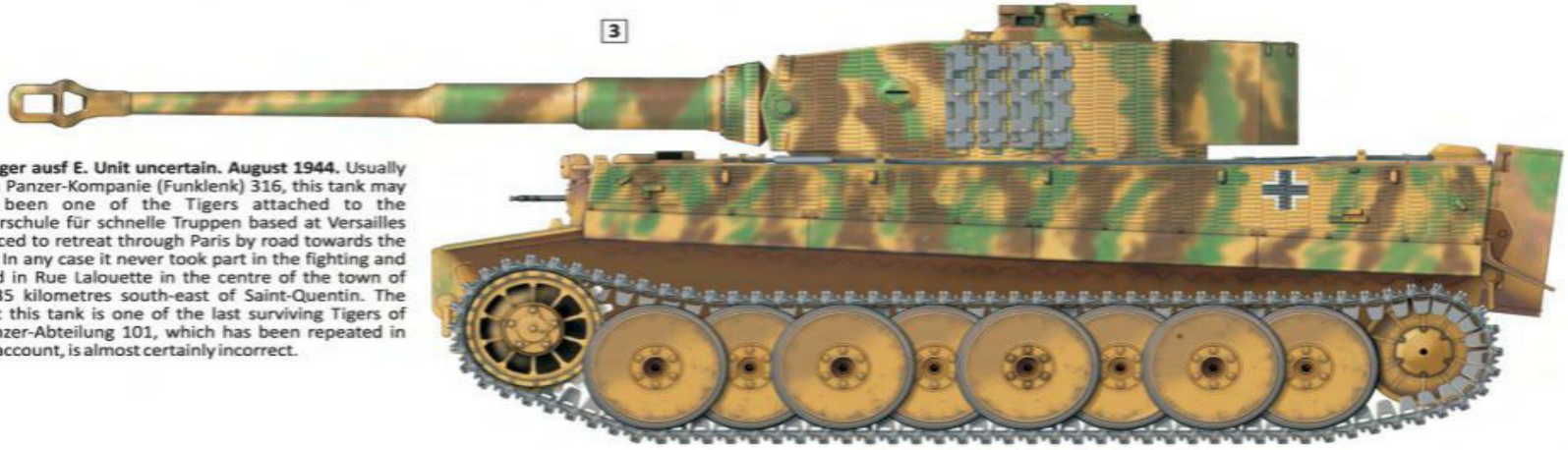
Notes

1. Tiger 221, 222, 223, 233 and 234 commanded by Untersturmführer Georg Hantusch, Unterscharführer Kurt Sowa, Oberscharführer Jürgen Brandt, Oberscharführer Georg Lötzsch and Unterscharführer Herbert Stief respectively. One of the tracks of Tiger 233 had been damaged and it probably took no part in the subsequent fighting explaining Schneider's account that Wittmann had four Tigers. Wittmann's own tank, Tiger 205, and Tiger 211, commanded by Obersturmführer Jürgen Wessel, were in repair.

2. The timing is based on the account given in the War Diary of 22nd Armoured Brigade. In 1944 this street was part of the Route Nationale N175 which ran from Caen to Vire and it is referred to as such in many accounts of the battle. Today N175 is known as Route Départementale D675

Probably photographed at some time prior to the Allied landings this mid-production Tiger I is identifiable by the barrel and the straight hull front extensions which were replaced by the notched versions from January 1944. The man on the left, with his back to the camera, is almost certainly Erwin Asbach, the commander of Tiger number 124.

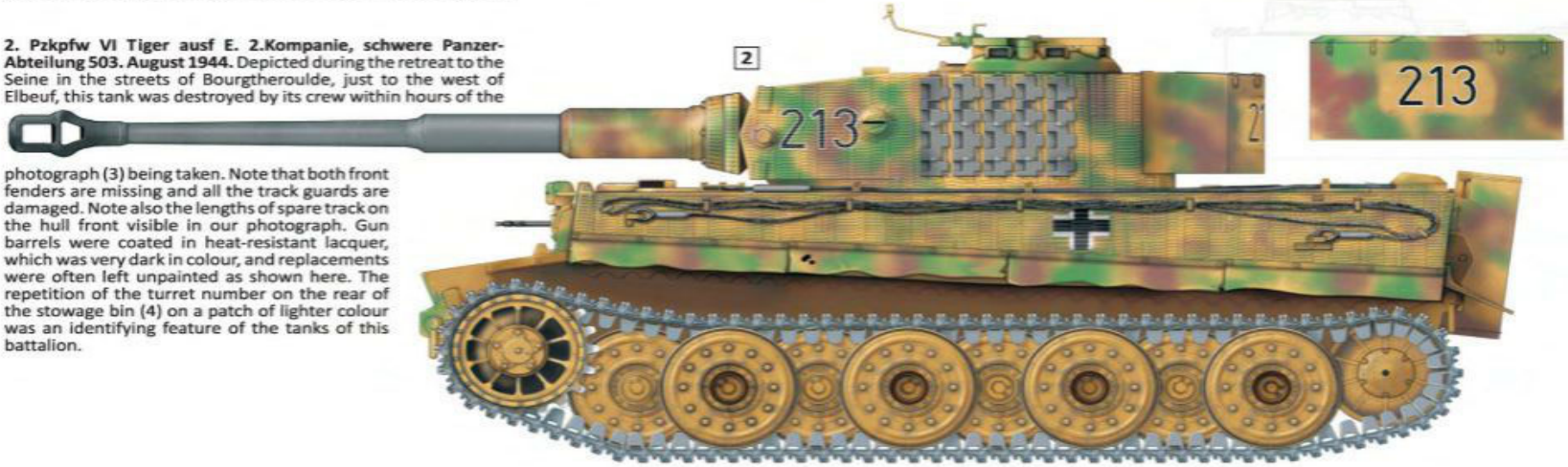
1. Pzkpfw VI Tiger ausf E. 2.Kompanie, schwere Panzer-Abteilung 503. Early summer 1944. Photographed while it was being transported to France by rail, as can be seen in the image at left (2), this tank was later abandoned between Mandeville and Emiéville on 18 June 1944, the first day of Operation Goodwood. Several photographs of this vehicle confirm that the turret number was rendered without the white outline often seen on other tanks of the battalion and this may have been a later addition. After the tank depicted here was lost, the company number of 213 was allocated to the Tiger shown at the bottom of the following page.

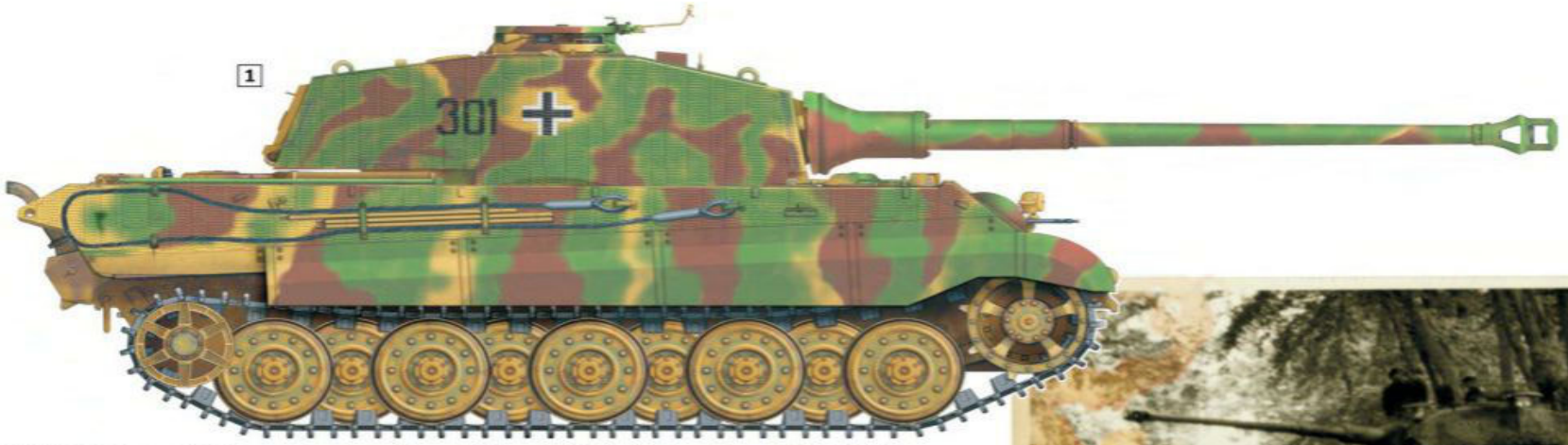


3. Pzkpfw VI Tiger ausf E. Unit uncertain. August 1944. Usually associated with Panzer-Kompanie (Funklenk) 316, this tank may in fact have been one of the Tigers attached to the Kompanieführerschule für schnelle Truppen based at Versailles which were forced to retreat through Paris by road towards the Belgian border. In any case it never took part in the fighting and was abandoned in Rue Lalouette in the centre of the town of Marle, about 35 kilometres south-east of Saint-Quentin. The suggestion that this tank is one of the last surviving Tigers of schwere SS-Panzer-Abteilung 101, which has been repeated in more than one account, is almost certainly incorrect.

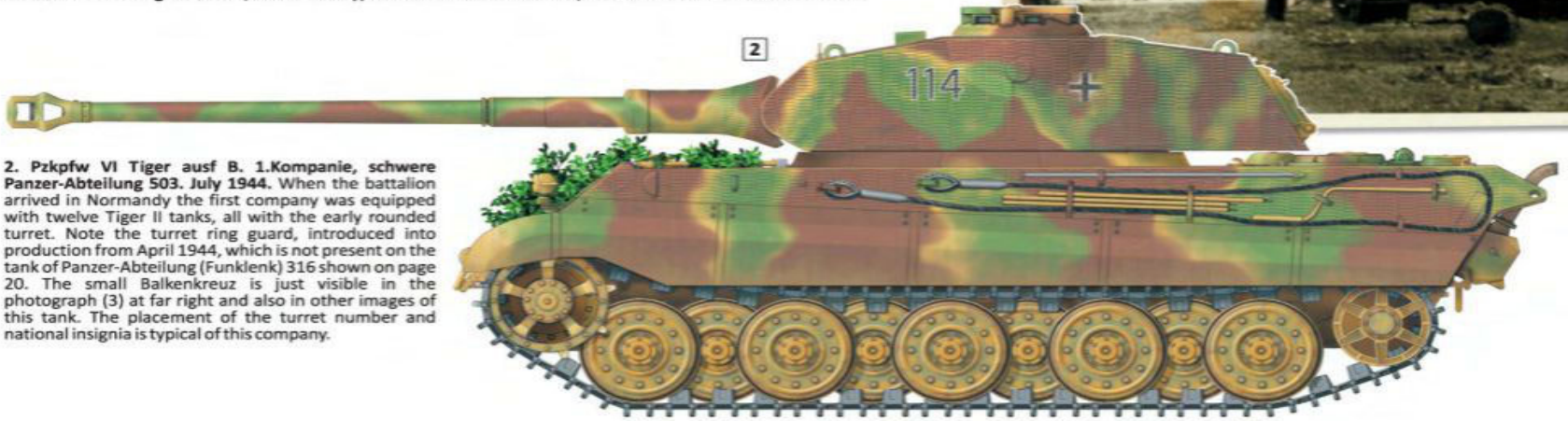
1. Befehlstiger I ausf E. Stab, schwere Panzer-Abteilung 503. August 1944. Although very few of this battalion's vehicles survived the fighting in Normandy and the subsequent retreat, this tank was photographed at both the Seine crossing and later in Holland. Note that the turret number is repeated on the rear stowage bin.

2. Pzkpfw VI Tiger ausf E. 2.Kompanie, schwere Panzer-Abteilung 503. August 1944. Depicted during the retreat to the Seine in the streets of Bourgtheroulde, just to the west of Elbeuf, this tank was destroyed by its crew within hours of the photograph (3) being taken. Note that both front fenders are missing and all the track guards are damaged. Note also the lengths of spare track on the hull front visible in our photograph. Gun barrels were coated in heat-resistant lacquer, which was very dark in colour, and replacements were often left unpainted as shown here. The repetition of the turret number on the rear of the stowage bin (4) on a patch of lighter colour was an identifying feature of the tanks of this battalion.

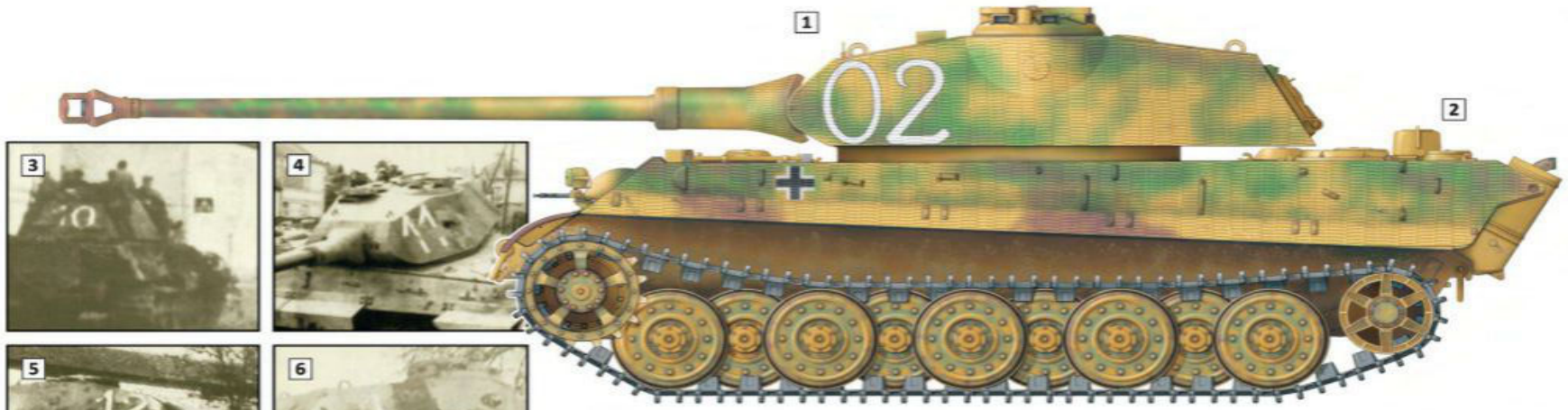




1. Pzkpfw VI Tiger ausf B. 3.Kompanie, schwere Panzer-Abteilung 503. July 1944. From the end of July 1944 the battalion's third company was rebuilt at Mailly-le-Camp east of Paris and received fourteen new Tiger II tanks. All were fitted with the early turret except Tiger number 300, the company commander's tank, and the vehicle shown here. The turret numbers were rendered as shown here, to the rear of the centrally-placed Balkenkreuz. The elaborate camouflage schemes, which were typical of this battalion's tanks, were continued on the new vehicles.

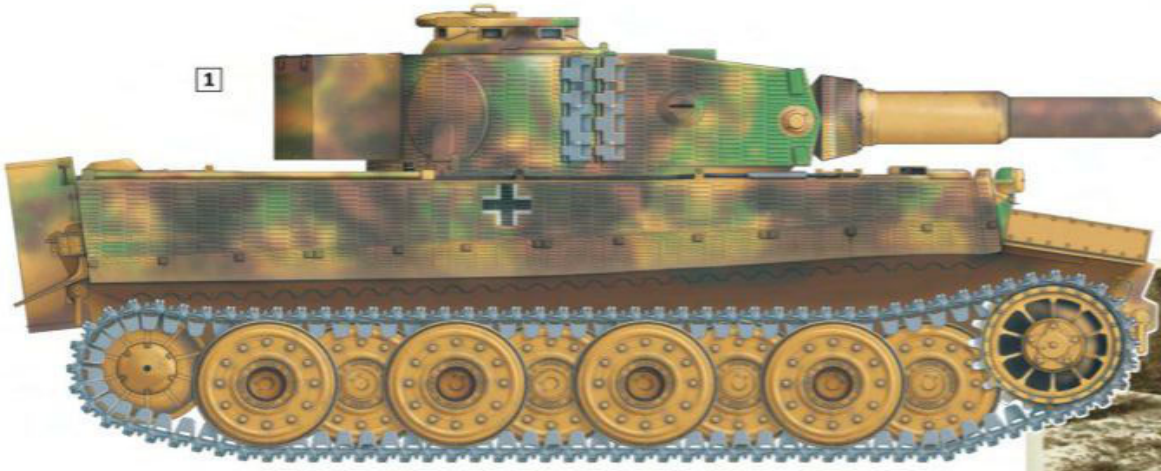


2. Pzkpfw VI Tiger ausf B. 1.Kompanie, schwere Panzer-Abteilung 503. July 1944. When the battalion arrived in Normandy the first company was equipped with twelve Tiger II tanks, all with the early rounded turret. Note the turret ring guard, introduced into production from April 1944, which is not present on the tank of Panzer-Abteilung (Funklenk) 316 shown on page 20. The small Balkenkreuz is just visible in the photograph (3) at far right and also in other images of this tank. The placement of the turret number and national insignia is typical of this company.



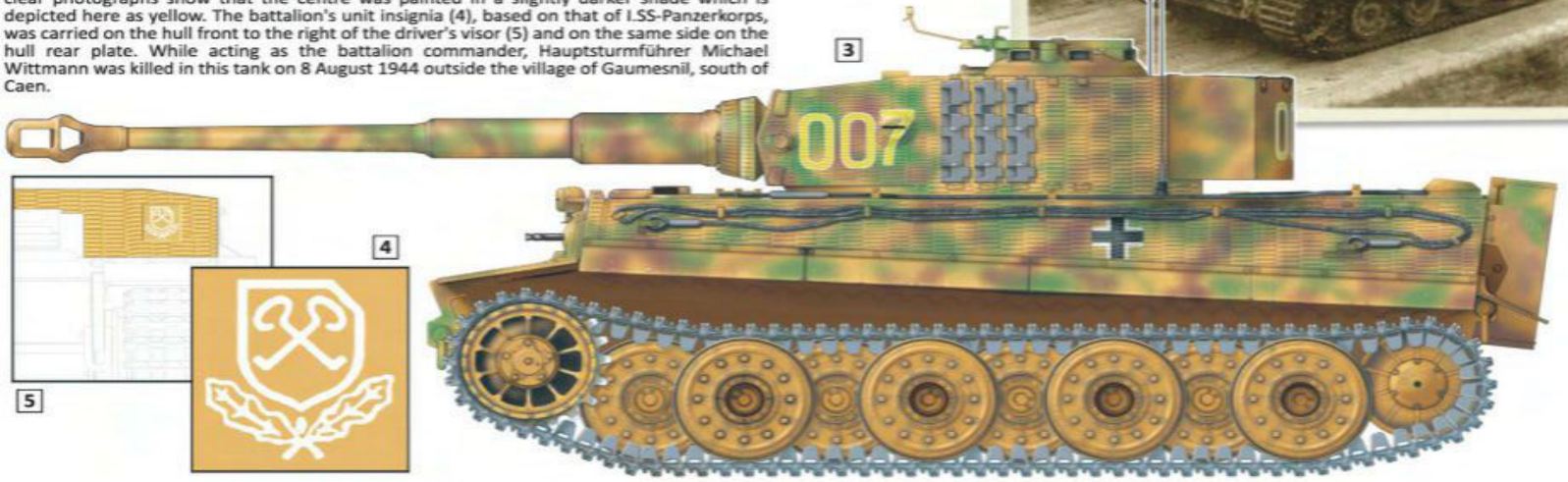
1. Pzkpfw VI Tiger ausf B. Panzer-Kompanie 316 (Funklenk). August 1944. This company received the first five production models of the Tiger II, assembled between December 1943 and January 1944, all fitted with the Krupp turret and other early features such as the 18-tooth drive sprocket and the armoured cover for the deep-wading gear (2). All were identified by large white turret numbers and although this is the subject of some debate the numbers were almost certainly 02 (our illustration), 10 (3), 11 (4), 12 (5) and 13 (6), which has been partly covered but is clear in the original image. The numbers seem to have a very thin dark outline and were repeated on the turret rear access door.

7. Pzkpfw VI Tiger ausf B. Unit uncertain. August 1944. Although this tank is often associated with Panzer-Kompanie (Funklenk) 316, and the turret number is certainly similar, it is a much later production vehicle without the armoured cover for the deep-wading equipment on the rear deck. In addition it has been fitted with Pilze sockets and metal hangers to carry lengths of spare track on the turret sides, suggesting that it could not have been built before June 1944. Photographed at Nogent-le-Rotrou, about 30 kilometres north-west of Châteaudun, this tank may be the Tiger II allocated to the Ersatzheer on 3 July 1944 and while some connection to Panzer-Kompanie (Funklenk) 316 cannot be ruled out, its identification remains a mystery.



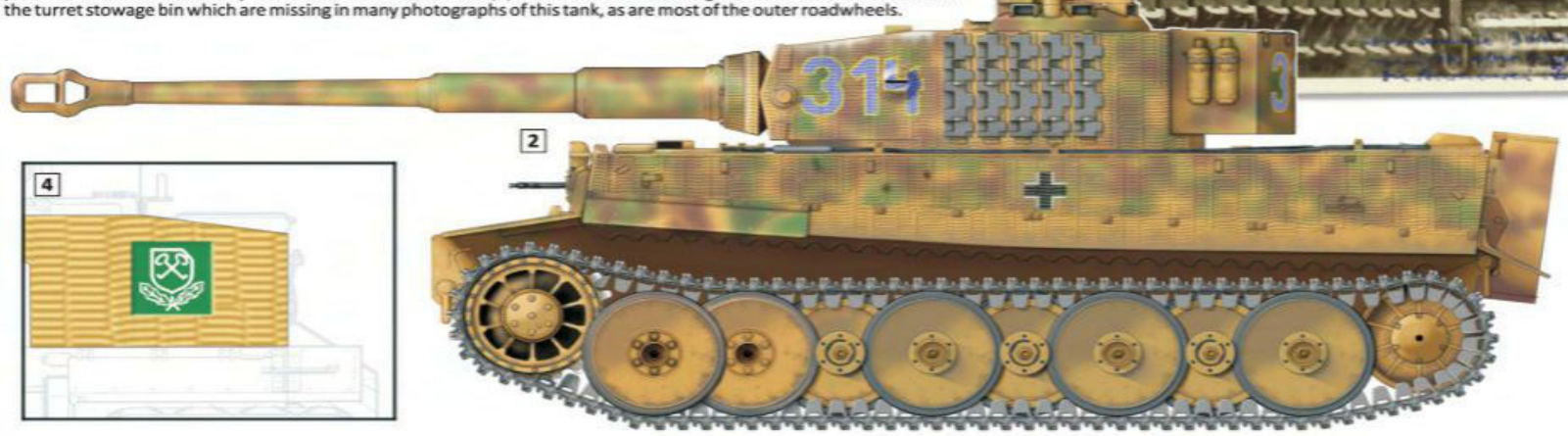
1. Pzkpfw VI Tiger ausf E. 3.Kompanie, Schwere SS-Panzer-Abteilung 101. This illustration is based on a series of photographs given to Oberst Wolfgang Schneider by the widow of Michael Wittmann and depicts the tank that was almost certainly renumbered as 205 (2) at some later date. Note that the camouflage pattern depicted in our illustration lacks the hard edges of that applied to the tank shown in the photograph and it is possible that this was also changed when the number was added. The numbers were rendered in red with a white outline and the battalion's unit insignia can just be seen as a light-coloured rectangle to the right of the hull machine gun.

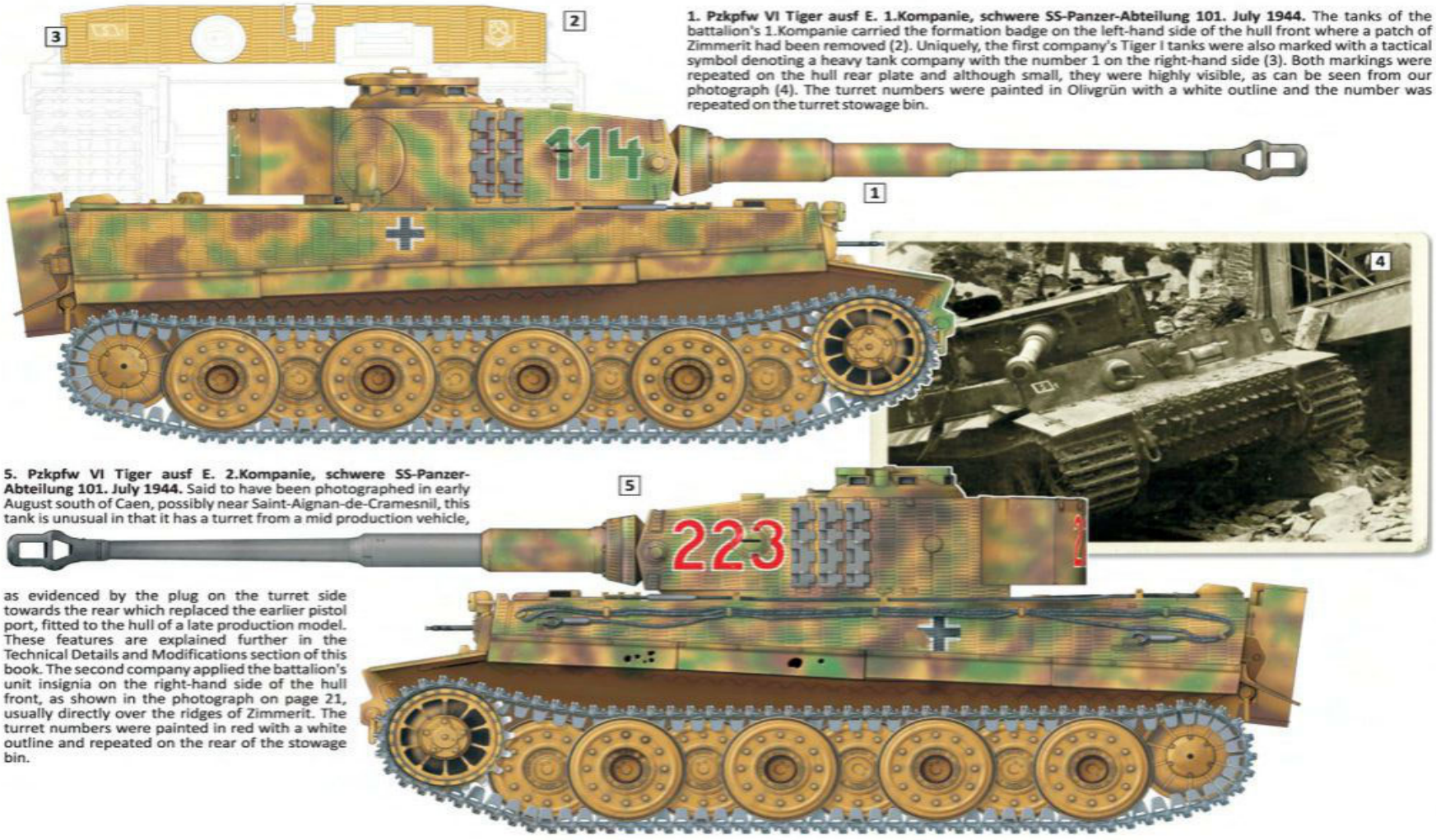
3. Pzkpfw VI Tiger ausf E. Stab, schwere SS-Panzer-Abteilung 101. While most accounts state that the numbers of the battalion headquarters tanks were rendered in solid white, several clear photographs show that the centre was painted in a slightly darker shade which is depicted here as yellow. The battalion's unit insignia (4), based on that of I.SS-Panzerkorps, was carried on the hull front to the right of the driver's visor (5) and on the same side on the hull rear plate. While acting as the battalion commander, Hauptsturmführer Michael Wittmann was killed in this tank on 8 August 1944 outside the village of Gaumesnil, south of Caen.



1. Pzkpfw VI Tiger ausf E. 3.Kompanie, schwere SS-Panzer-Abteilung 101. April 1944. The battalion's 3.Kompanie was the first to be fully equipped and shipped to France and until April 1944, when the remainder of the battalion arrived, the tanks were identified by the large white numbers shown here. The numbers were later changed to blue with a yellow outline which was thought to be less conspicuous.

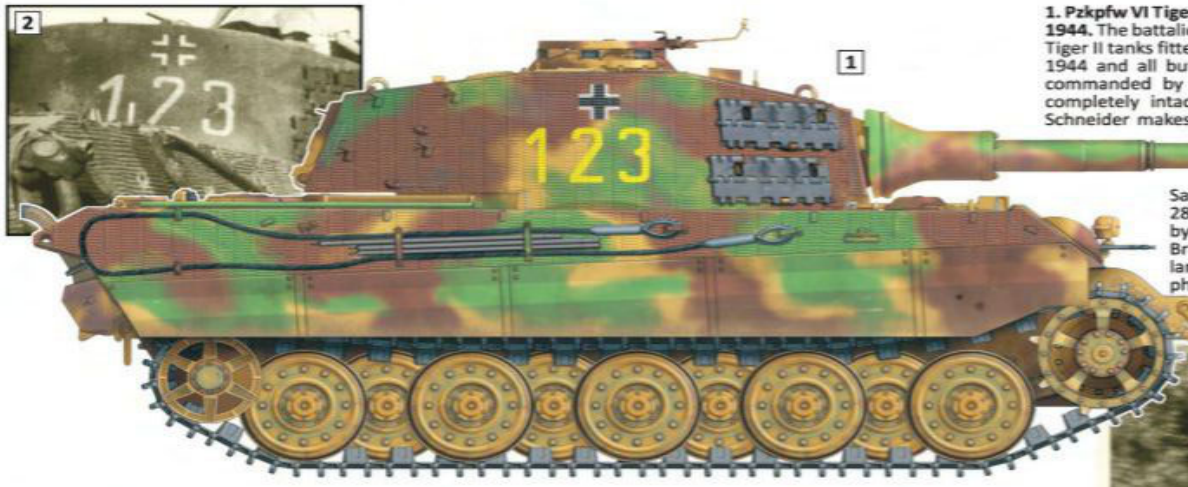
2. Pzkpfw VI Tiger ausf E. 3.Kompanie, schwere SS-Panzer-Abteilung 101. Commanded by Unterscharführer Otto, Blase this tank was knocked out near Mons in Belgium during the late summer. The tanks of 3.Kompanie carried the battalion's unit insignia on the hull front to the right of the driver's visor as shown in our photograph (3) and on the hull rear plate on the same, that is port, side. It was sometimes, but not always, painted onto a darker background and a patch of Zimmerit was usually removed as can be seen here (4). Note the two fire extinguishers attached to the side of the turret stowage bin which are missing in many photographs of this tank, as are most of the outer roadwheels.





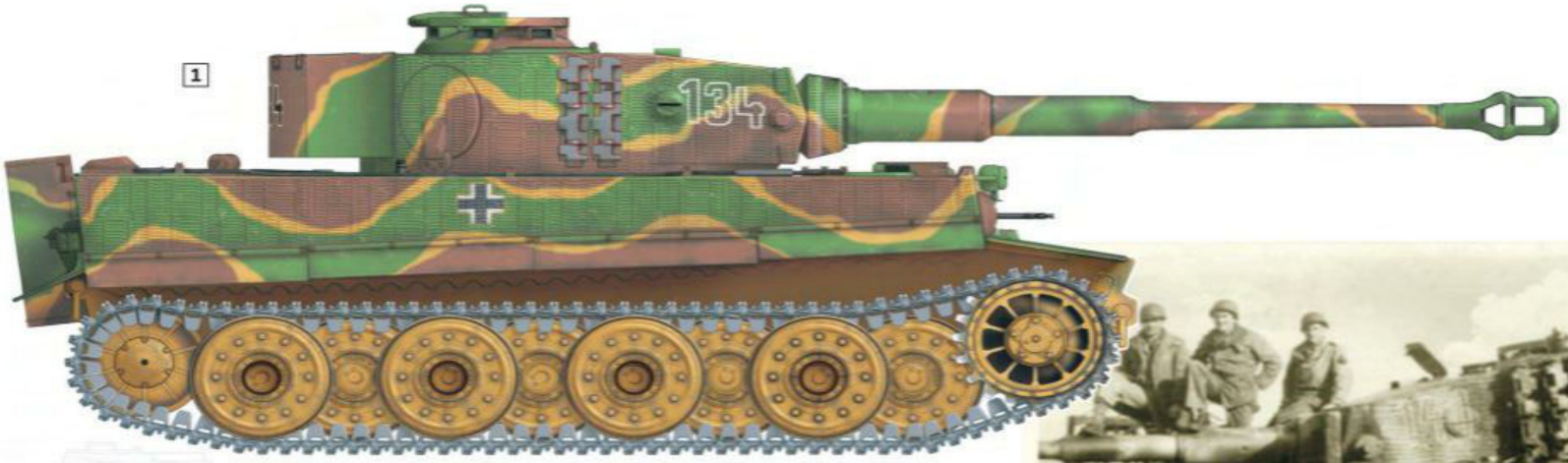
1. Pzkpfw VI Tiger ausf E. 1.Kompanie, schwere SS-Panzer-Abteilung 101. July 1944. The tanks of the battalion's 1.Kompanie carried the formation badge on the left-hand side of the hull front where a patch of Zimmerit had been removed (2). Uniquely, the first company's Tiger I tanks were also marked with a tactical symbol denoting a heavy tank company with the number 1 on the right-hand side (3). Both markings were repeated on the hull rear plate and although small, they were highly visible, as can be seen from our photograph (4). The turret numbers were painted in Olivgrün with a white outline and the number was repeated on the turret stowage bin.

5. Pzkpfw VI Tiger ausf E. 2.Kompanie, schwere SS-Panzer-Abteilung 101. July 1944. Said to have been photographed in early August south of Caen, possibly near Saint-Aignan-de-Cramesnil, this tank is unusual in that it has a turret from a mid production vehicle, as evidenced by the plug on the turret side towards the rear which replaced the earlier pistol port, fitted to the hull of a late production model. These features are explained further in the Technical Details and Modifications section of this book. The second company applied the battalion's unit insignia on the right-hand side of the hull front, as shown in the photograph on page 21, usually directly over the ridges of Zimmerit. The turret numbers were painted in red with a white outline and repeated on the rear of the stowage bin.

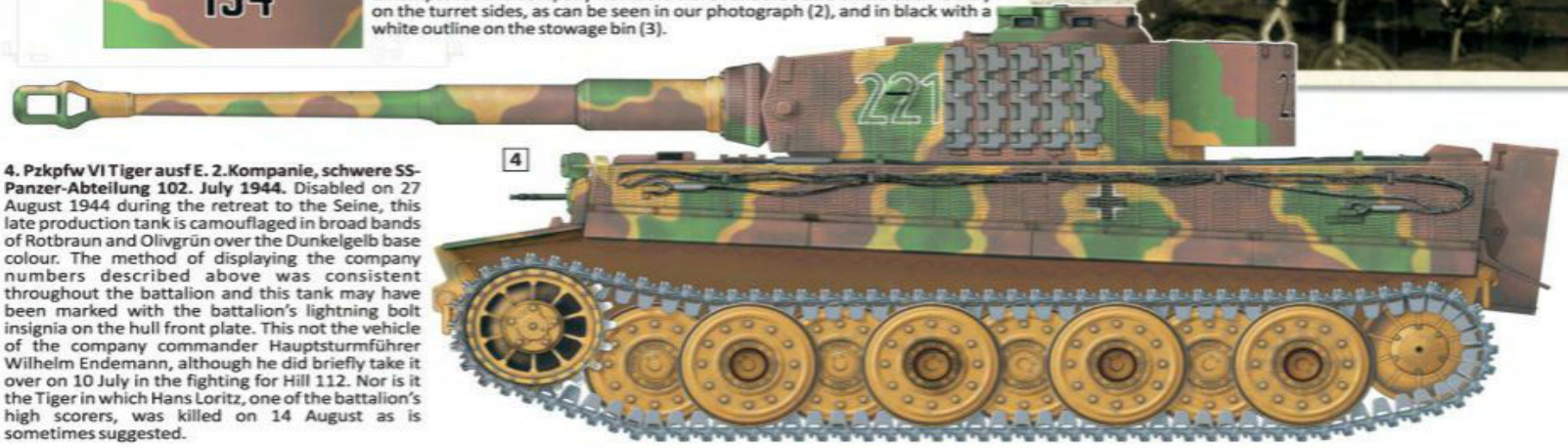


1. Pzkpfw VI Tiger ausf B. 1.Kompanie, schwere SS-Panzer-Abteilung 101. August 1944. The battalion's first company was re-equipped with fourteen of the very first Tiger II tanks fitted with the so-called Henschel turret during the last week of July 1944 and all but one were lost in the subsequent fighting. This vehicle was commanded by Unterscharführer Werner Wendt and was captured almost completely intact. In his account of the Tiger battalions, Oberst Wolfgang Schneider makes no mention of it but according to the Musée des Blindés at Saumur this tank is Tiger II Fahrgestellnummer, or chassis number, 280112 which is today on display at the museum and was salvaged by French Army units after being abandoned on 23 August 1944 at Brueil-en-Vexin, a small town east of Mantes-la-Jolie. Note the large yellow turret numbers which can also be clearly seen in our photograph (2).

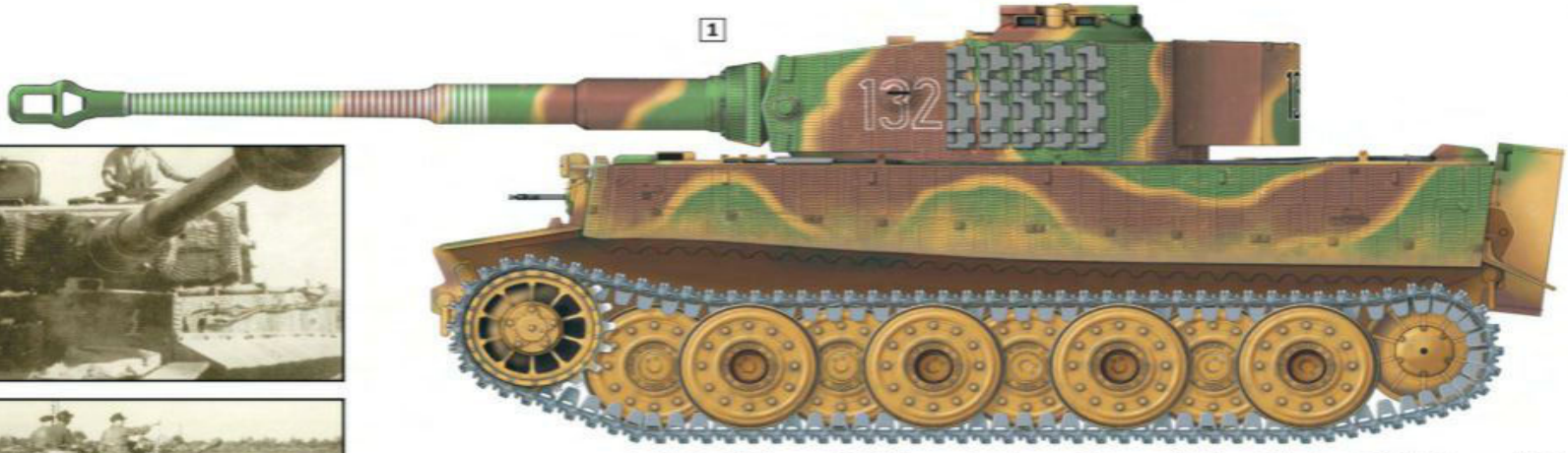
3. Pzkpfw VI Tiger ausf B. 1.Kompanie, schwere SS-Panzer-Abteilung 101. August 1944. Although most authoritative sources state that the Tiger II tanks of this company were identified by yellow turret numbers, our photograph (4) clearly shows that this vehicle's number has a light-coloured outline. Further, the shade in the centre seems decidedly darker than the RAL 7028 Dunkelgelb of the camouflage and it may be that the first deliveries were marked with Olivgrün and white numbers as the company's Tiger I tanks had been. A small square of Zimmerit was removed from the hull front (5 and 6) to accommodate battalion's unit insignia, shown in an enlarged view on page 21.



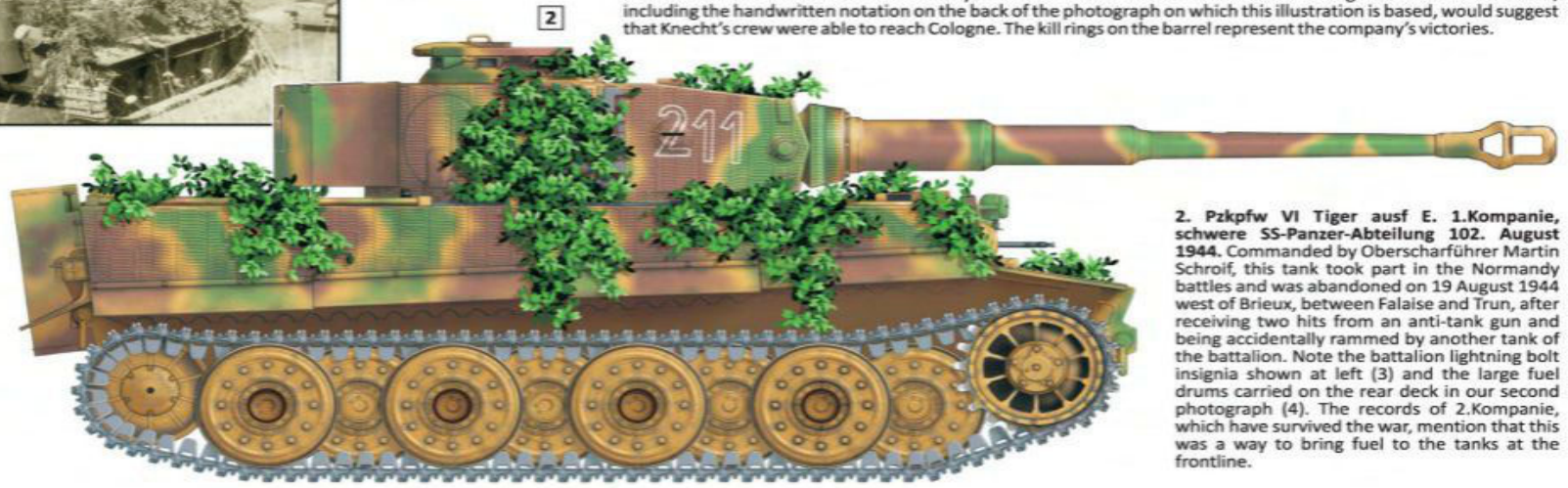
1. Pzkpfw VI Tiger ausf E. 1.Kompanie, schwere SS-Panzer-Abteilung 102. July 1944. Commanded by Hauptscharführer Willi Fey, one of the battalion's most distinguished soldiers, this late production Tiger is finished in a camouflage scheme made up of long, wavy lines that was common to 1.Kompanie. The company numbers were rendered as a white outline only on the turret sides, as can be seen in our photograph (2), and in black with a white outline on the stowage bin (3).



4. Pzkpfw VI Tiger ausf E. 2.Kompanie, schwere SS-Panzer-Abteilung 102. July 1944. Disabled on 27 August 1944 during the retreat to the Seine, this late production tank is camouflaged in broad bands of Rotbraun and Olivgrün over the Dunkelgelb base colour. The method of displaying the company numbers described above was consistent throughout the battalion and this tank may have been marked with the battalion's lightning bolt insignia on the hull front plate. This not the vehicle of the company commander Hauptsturmführer Wilhelm Endemann, although he did briefly take it over on 10 July in the fighting for Hill 112. Nor is it the Tiger in which Hans Loritz, one of the battalion's high scorers, was killed on 14 August as is sometimes suggested.



1. Pzkpfw VI Tiger ausf E. 1.Kompanie, schwere SS-Panzer-Abteilung 102. August 1944. Commanded by Oberscharführer Walter Knecht, this tank is almost certainly the battalion's last surviving Tiger I. It was thought that as the battalion retreated from Normandy the last tank was abandoned in Genval in Belgium but recent research, including the handwritten notation on the back of the photograph on which this illustration is based, would suggest that Knecht's crew were able to reach Cologne. The kill rings on the barrel represent the company's victories.



2. Pzkpfw VI Tiger ausf E. 1.Kompanie, schwere SS-Panzer-Abteilung 102. August 1944. Commanded by Oberscharführer Martin Schroif, this tank took part in the Normandy battles and was abandoned on 19 August 1944 west of Brieux, between Falaise and Trun, after receiving two hits from an anti-tank gun and being accidentally rammed by another tank of the battalion. Note the battalion lightning bolt insignia shown at left (3) and the large fuel drums carried on the rear deck in our second photograph (4). The records of 2.Kompanie, which have survived the war, mention that this was a way to bring fuel to the tanks at the frontline.

TIGER I

SCHWERE PANZER-ABTEILUNG 503

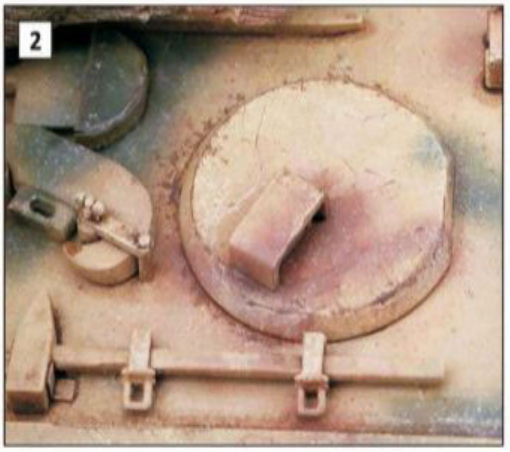
1/35 SCALE

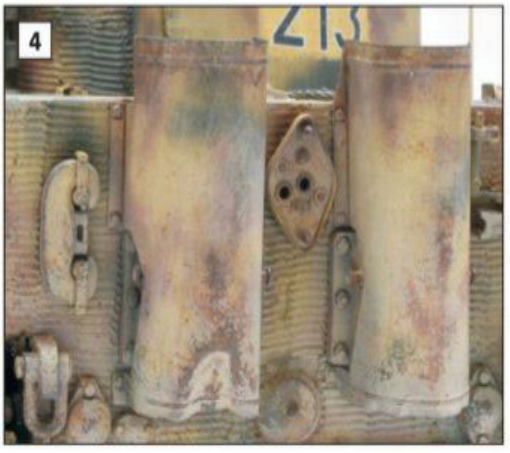
LESTER PLASKITT

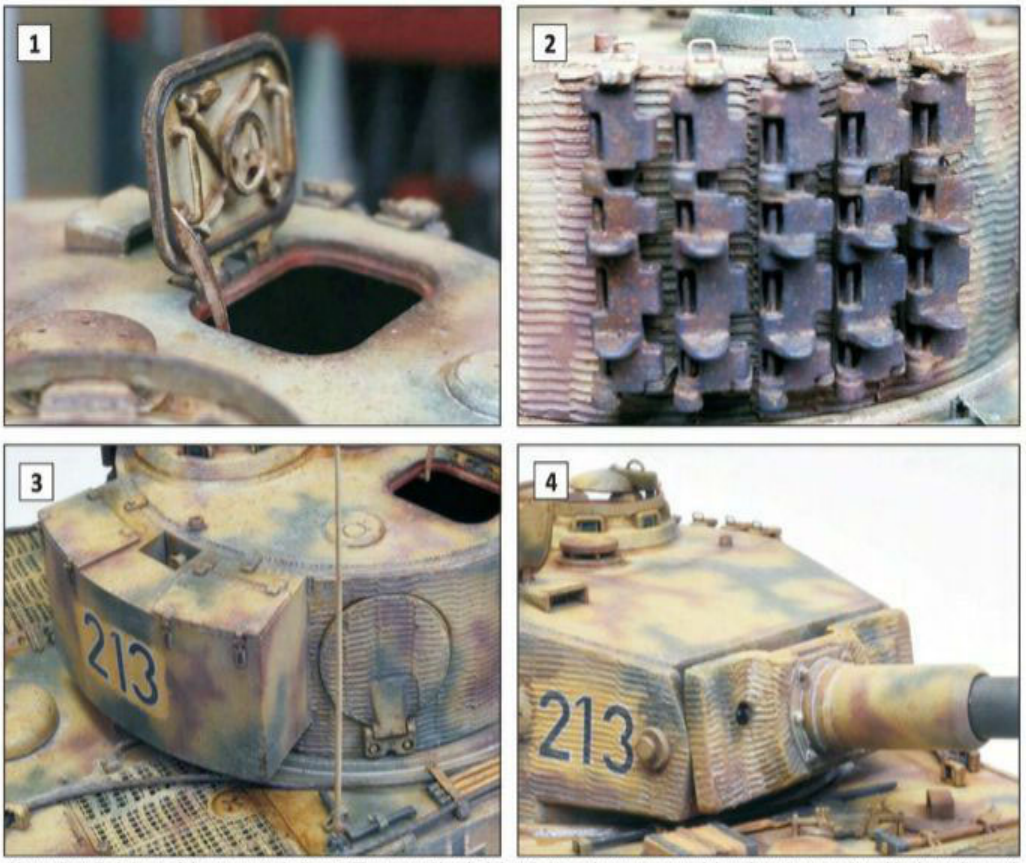
British modeller Lester Plaskitt, whose work has appeared in other books in this series, based his model on the Tamiya 1/35 scale kit. The Zimmerit texture is from Polish company Atakmodel, which offers plastic sheets of Zimmerit to fit specific vehicles. Fine details were added with Aber photo-etched brass parts and the tracks are from Friulmodel. The latter are produced as individual links and are held together by lengths of wire in the same manner as the original track pins.

The fully assembled model was painted in a camouflage pattern of Rotbraun and Olivgrün on a Dunkelgelb base with acrylic lacquer paint from the AK Real Colours range and then weathered with enamel washes and oils from the same company.

Below: A rear view of the completed model showing the sheet metal exhaust covers and the large hook, or C-clamp, mounted on the hull rear on the left. Details of the hull are shown at the bottom of the page including: 1. The driver's visor and single headlight. 2. The driver's hatch with the second C-clamp. 3. The 20-ton jack fitted to its bracket on the hull rear plate. 4. The exhaust covers. The weathering, although extensive, is highly realistic.







Above: Detailed views of the turret, including: 1. The opened loader's hatch. Note the wear around the edges. Lester painstakingly applies each scratch and chip with a fine brush. 2. The spare tracks in their hangers on the turret side. 3. The turret stowage bin. Note that the company number is applied on a rectangle of the base colour as it is on the turret side. 4. The main gun mantlet.

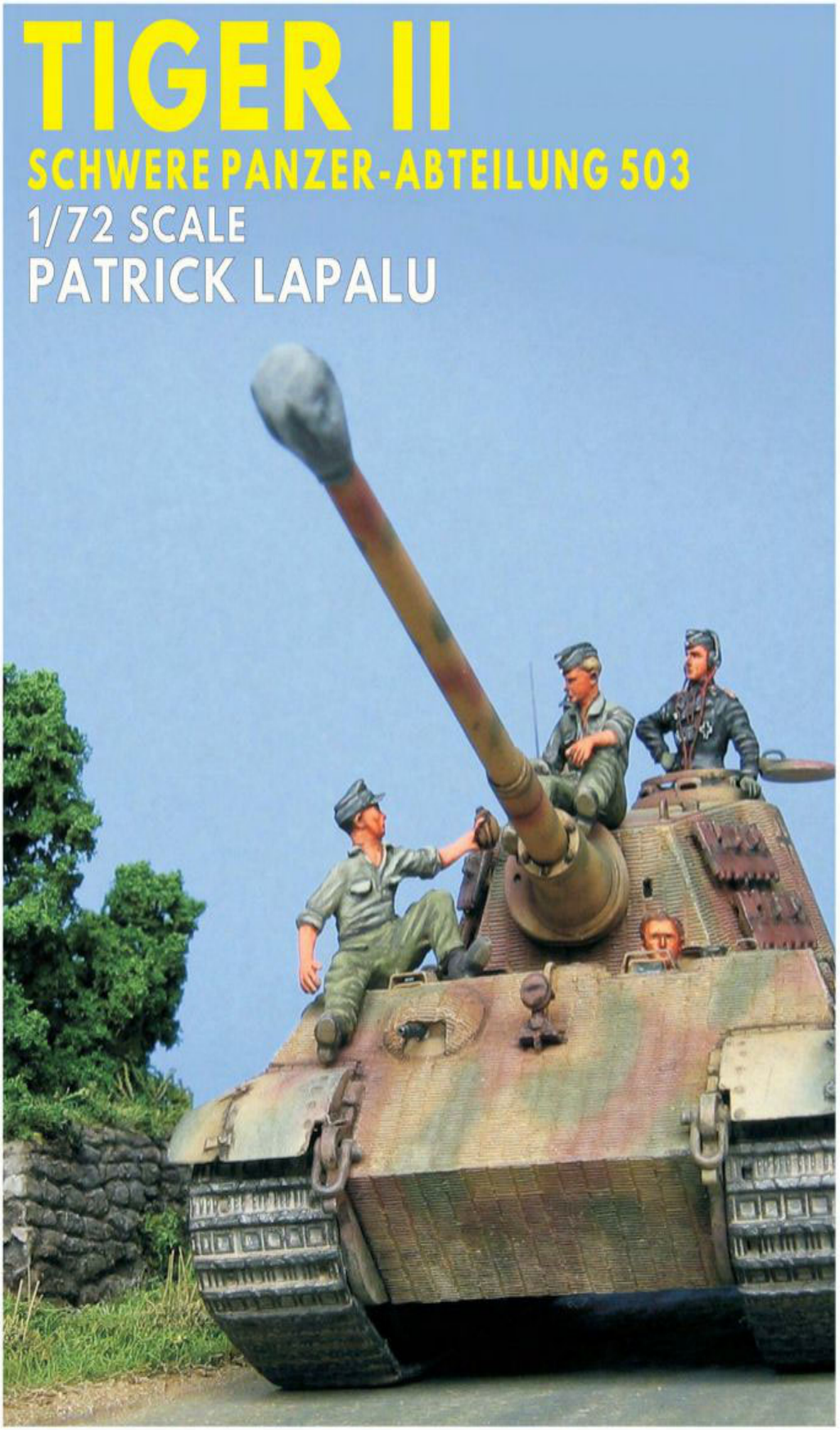
A front view of the completed model. Compare this with the illustration and photograph of the original vehicle shown on page 18 of the Camouflage & Markings section of this book.

TIGER II

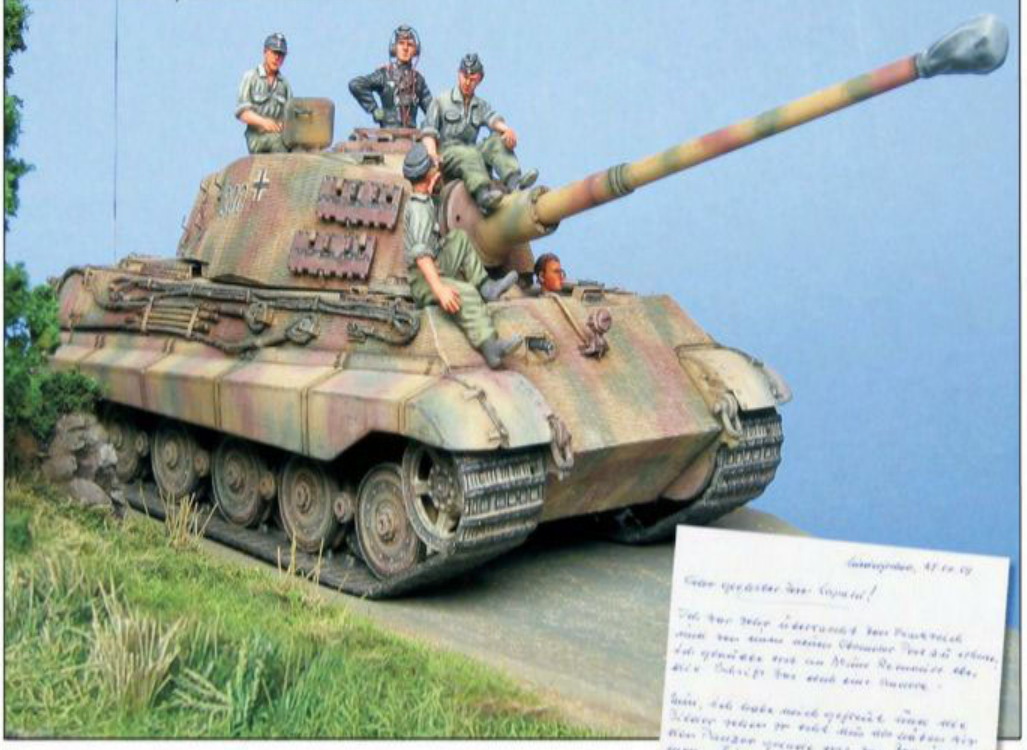
SCHWERE PANZER-ABTEILUNG 503

1/72 SCALE

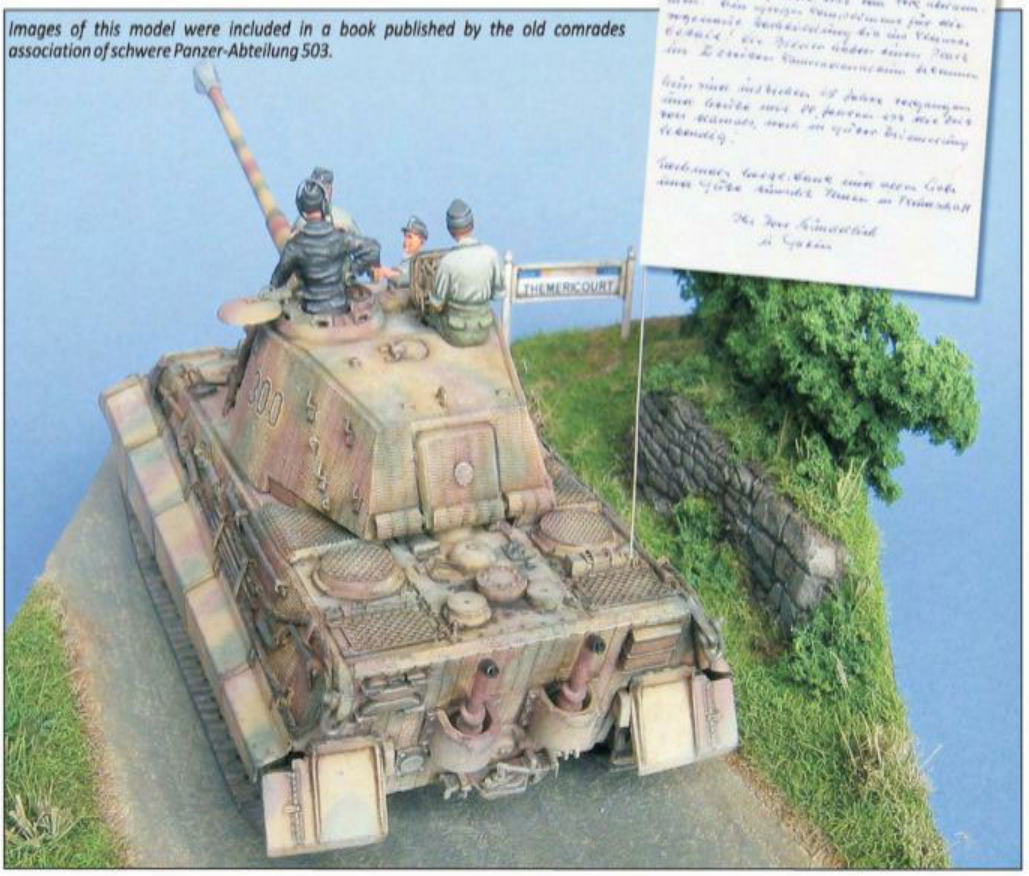
PATRICK LAPALU



French modeller Patrick Lapalu's model is based on the Revell 1/72 scale kit with photo-etched details from Part and Eduard Model Accessories and finished with Humbrol enamels. The crew figures are from Preiser and the base depicts the road outside Théméricourt, a small village in the Vexin which Patrick was able to visit, where this tank was disabled due to a broken track on 21 August 1944. Patrick was able to write to Gotthold Wunderlich, who was the driver of Tiger number 300, and received the reply shown here at right. Herr Wunderlich described the model as an "... exact reproduction to the smallest detail."



Images of this model were included in a book published by the old comrades association of schwere Panzer-Abteilung 503.



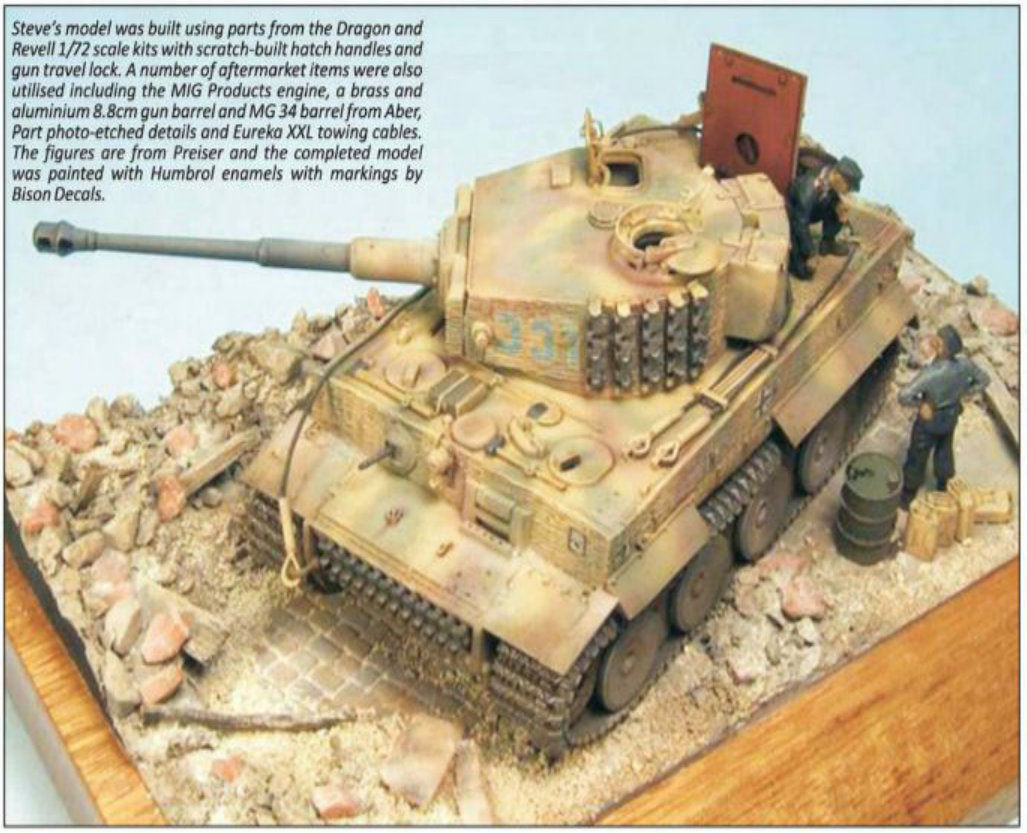
TIGER I

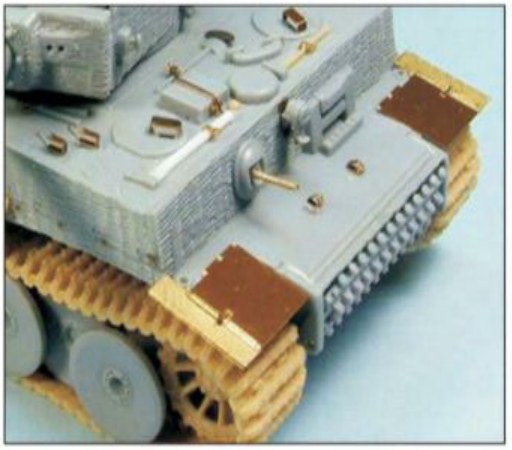
SCHWERE SS-PANZER-ABTEILUNG 101

1/72 SCALE

STEVE SHRIMPTON

Steve's model was built using parts from the Dragon and Revell 1/72 scale kits with scratch-built hatch handles and gun travel lock. A number of aftermarket items were also utilised including the MIG Products engine, a brass and aluminium 8.8cm gun barrel and MG 34 barrel from Aber, Part photo-etched details and Eureka XXL towing cables. The figures are from Preiser and the completed model was painted with Humbrol enamels with markings by Bison Decals.





TIGER I

SCHWERE SS-PANZER-ABTEILUNG 101

1/48 SCALE

GLENN BARTOLOTTI

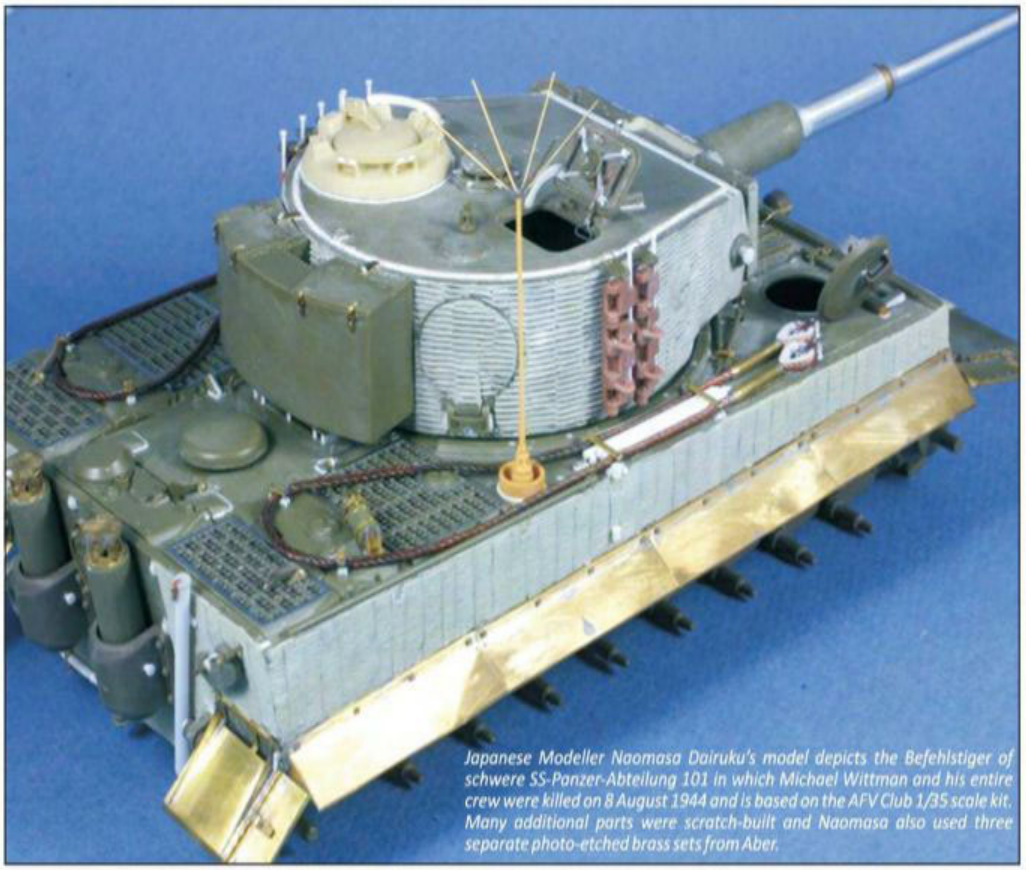
Glenn's model, based on the AFV Club 1/48 scale kit, depicts a Tiger of 1.Kompanie, schwere SS-Panzer-Abteilung abandoned in Villers-Bocage after the fighting of 13 June 1944. The model was built almost straight from the box with scratch-built details such as the towing cables and bent track guards. Below is the fully built and primed model on its base. The images at the bottom of the page show the finished project. Glenn used Testors Modelmaster enamels and Model Color Vellejo acrylics and then weathered the model and base with artists oils and pastel chalk. Glenn's on-line 'how-to' booklets, shown at right, describe the assembly and finishing process in detail and contact details are given on page 64.

TIGER I

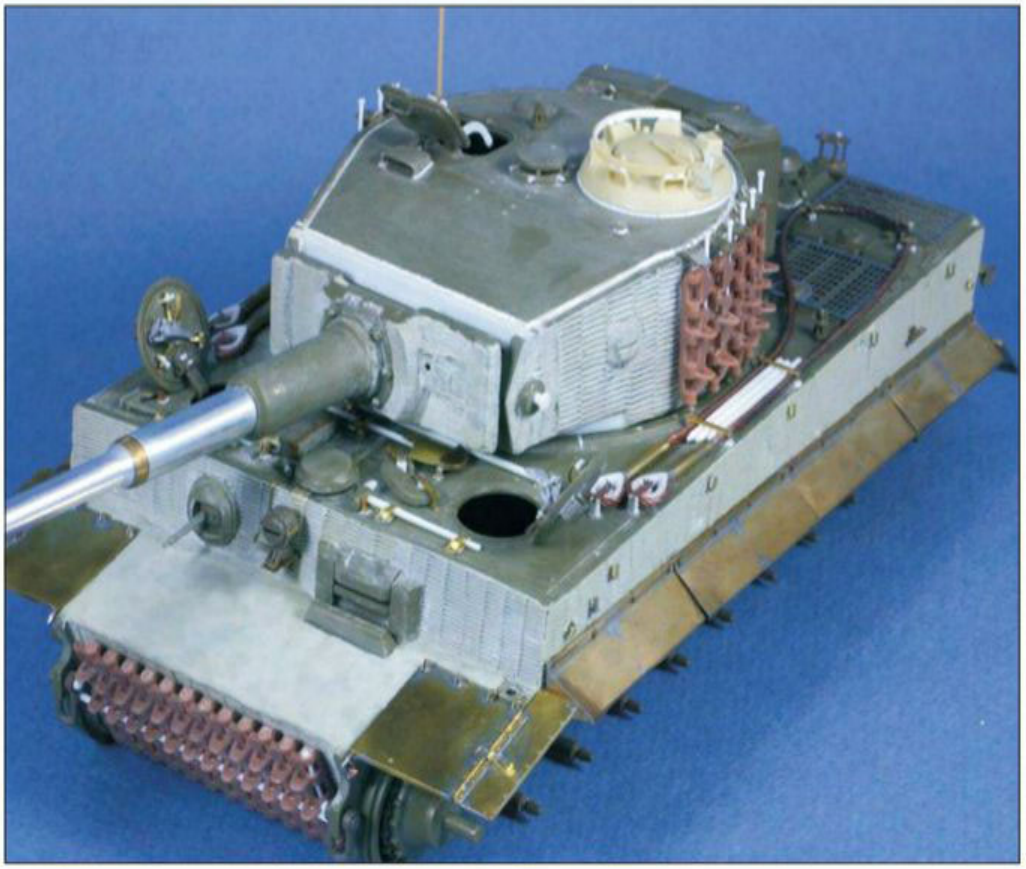
SCHWERE SS-PANZER-ABTEILUNG 101

1/35 SCALE

NAOMASA DAIRAKU



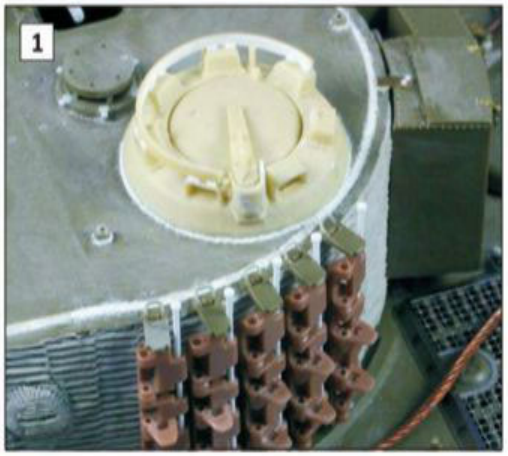
Japanese Modeller Naomasa Dairuku's model depicts the Befehlstiger of schwere SS-Panzer-Abteilung 101 in which Michael Wittman and his entire crew were killed on 8 August 1944 and is based on the AFV Club 1/35 scale kit. Many additional parts were scratch-built and Naomasa also used three separate photo-etched brass sets from Aber.

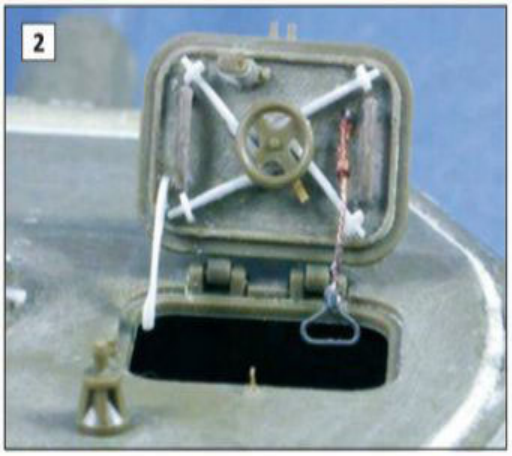


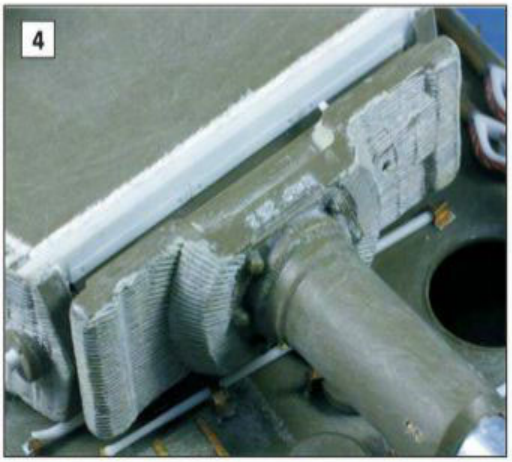
The assembled model was painted using an airbrush with Mr Color acrylics, a product which is very popular with Japanese modellers, and the turret number and battalion insignia were added by hand. The images at the bottom of the page illustrate the amount of detail, including moving parts, that Naomasa incorporates into his work

After weathering the model was fitted with Modelkasten tracks, which can be seen on page 37.

Shown below are details of the turret, including: 1. The commander's cupola. Note the weld beads and Zimmerit texture, both made from putty. 2. The interior of the loader's hatch 3. The turret escape hatch and stowage bin latches. 4. The main gun mantlet. Note that the Zimmerit has been worn away to show the casting number.







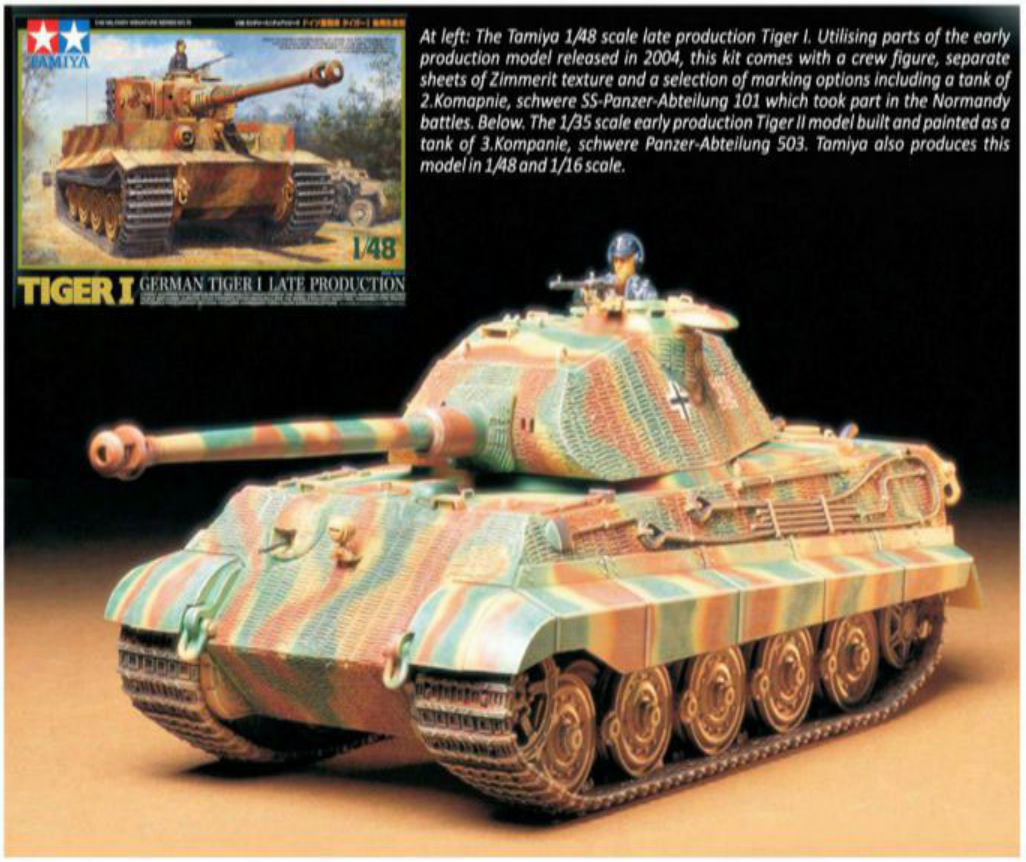
The Tiger I and Tiger II tanks are arguably the most famous armoured fighting vehicles in the history of warfare. Whatever their capabilities and deficiencies may have been, there can be no doubting their popularity among modellers and scale replicas of these tanks have been produced by every major manufacturer, and many minor and less well known companies, over the years.

Most of the early kits would be considered little more than toys today, although many fetch high prices with collectors, but the more recent offerings are highly-detailed replicas and additional extras such as photo-etched brass parts, turned aluminium barrels and workable tracks are today commonplace additions. The proliferation of models from the major manufacturers such as Dragon Models has seen the emergence of smaller, specialised companies producing additional items in resin, photo-etched metal and other materials allowing a level of super-detailing which is only limited by the modeller's skill and experience. Model kits of the Tiger are produced in a number of scales from tiny 6mm wargames miniatures to the huge, radio-controlled 1/6 scale versions. These are, however, at the extreme ends of the market and we have chosen to concentrate here on the most popular modelling scales of 1/35, 1/48 and 1/72. In addition, I have not included vehicles or variants which do not fit into the time frame of this book. I should point out that the following list is far from exhaustive, mostly due to reasons of space and almost constant new releases, and I would encourage readers to undertake their own research into the areas that interest them most. Similarly I have limited any comment or critique of these kits or products to those of which I have first-hand knowledge.

An index of manufacturers can be found on page 64.

TAMIYA INCORPORATED

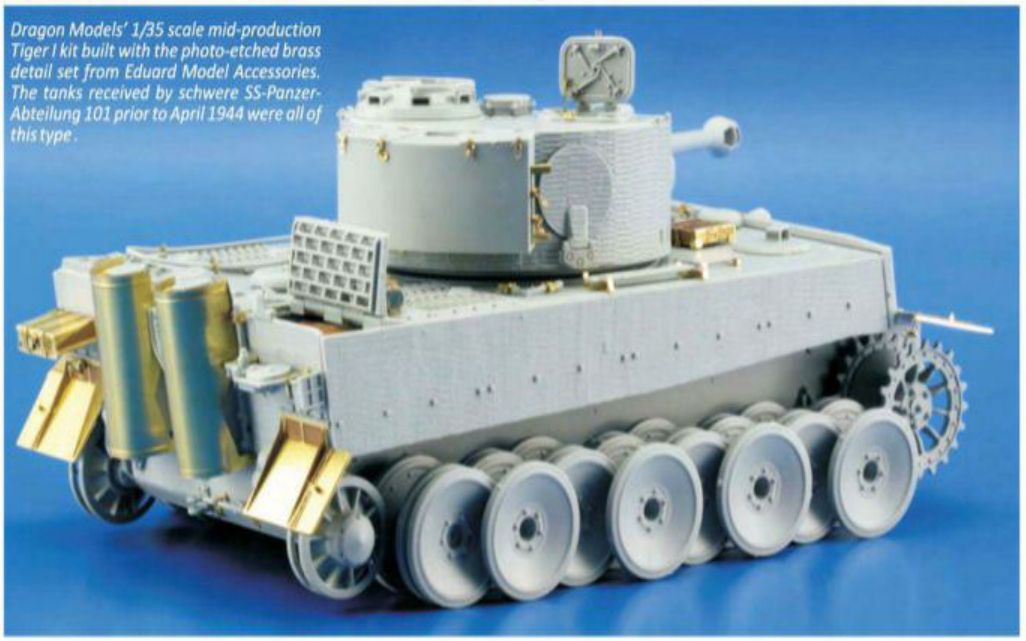
This Japanese company, which began life as a sawmill, has been manufacturing plastic kits since 1959, releasing their first armour model two years later. By the early 1970s Tamiya was producing a large range of armoured vehicles and accessories and the company was almost solely responsible for the rise in popularity of 1/35 scale. Like Airfix, the adoption of a constant scale proved popular at a time when many manufacturers were making models to fit the box in which they would eventually be marketed. Tamiya's early kits were, for their day, highly detailed, relatively easy to assemble and, most importantly, affordable. From 2003 Tamiya began releasing a series of armour models in 1/48 scale, including early and late models of the Tiger I and a Tiger II, and this line has been extremely successful for the company. At the time of writing Tamiya produces, in 1/35 scale, early, mid-production and late versions of the Tiger I, a Tiger II fitted with the Production turret and coated with Zimmerit , a later Tiger II without the Zimmerit and a Tiger II with the earlier Porsche turret. Radio-controlled models of an early production Tiger I and a Tiger II are produced in both 1/35 and 1/16 scale.



At left: The Tamiya 1/48 scale late production Tiger I. Utilising parts of the early production model released in 2004, this kit comes with a crew figure, separate sheets of Zimmerit texture and a selection of marking options including a tank of 2.Komapnie, schwere SS-Panzer-Abteilung 101 which took part in the Normandy battles. Below. The 1/35 scale early production Tiger II model built and painted as a tank of 3.Kompanie, schwere Panzer-Abteilung 503. Tamiya also produces this model in 1/48 and 1/16 scale.

DRAGON MODELS LIMITED

At the time of writing this Hong Kong-based company's catalogue contained over forty models of Tiger I and II variants in 1/35 and 1/72 scale including kits of the Bergetiger recovery vehicle. That number does not include the Jagdtiger tank destroyer and Sturmtiger assault gun, both offered in different scales. The larger scale models include early, mid and late production tanks as well as the Tiger I hybrid version. From time to time many of these models are repackaged with bonus items such as photo-etched parts or new sets of markings under the Cyberhobby label. Dragon also offers a number of the same tanks, pre-painted and assembled, in 1/144 scale and a complete range of 1/72 scale tanks, again pre-painted and assembled. To complement the vehicles there is a large range of highly detailed, plastic multi-pose figures.



Dragon Models' 1/35 scale mid-production Tiger I kit built with the photo-etched brass detail set from Eduard Model Accessories. The tanks received by schwere SS-Panzer-Abteilung 101 prior to April 1944 were all of this type.

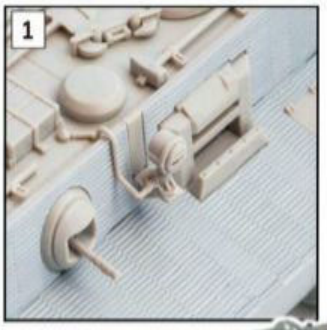
ACADEMY

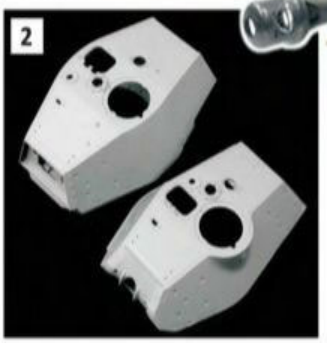
Based in Korea, this company's Military Miniatures range of 1/35 scale figures and vehicles includes an early and mid production Tiger I, a late production version and a Hybrid model with later steel wheels. All include optional Zimmerit texture for the hull and turret. Most of these models have been repackaged at some time, often with only minor changes or new markings, while some contain interior details. The late production model was marketed with markings for tanks that operated in Normandy at the time of the 70th anniversary of the landings.

Below: Academy's late production Tiger I kit in 1/35 scale built with photo-etched brass details from Eduard Model Accessories. Separate sheets of Zimmerit texture are included with the kit and most, if not all, these tanks would have had the paste applied before leaving the assembly plant. The images at left show the detailed interior of the early production model.

TRUMPETER/HOBBY BOSS

Often thought to be separate entities, these Chinese companies are in fact owned by the same corporation, are located at the same address and are essentially the same firm although different models are marketed separately under the two labels. Hobby Boss produces a 1/16 scale mid production Tiger I while Trumpeter's range is far more extensive encompassing a number of 1/72 scale models and a 1/16 scale Tiger II which can be built with either the Production or earlier Krupp turret. There are also options of other late or early production features.





Below: The Hobby Boss 1/16 scale mid production Tiger I. This model comes assembled and pre-painted in the scheme shown here. At left, 1. Detail of the 1/35 scale mid production Tiger I with Zimmerit fitted. 2. The optional turrets for the 1/35 scale Tiger II

RYE FIELD MODELS

Based in Hong Kong, this company released three kits depicting Tiger I variants all in the short space of time between September 2015 and February 2016. An initial production model depicts a Tiger with the modifications seen on the first tanks sent to Tunisia and the mid production version features extensive interior detailing. The third release, depicting a hybrid Tiger I, utilises parts from the kits. The late production Tiger I kit, announced in early 2018 and shown below, has at last been released and can be built as the tank commanded by Michael Wittmann in Normandy. These are not re-worked or re-issued kits, as has been suggested, but completely new models.

TAKOM

This is one of the newest model manufacturers, setting up shop in Hong Kong in 2013 as Takom World and shortly afterwards expanding to open a plant in mainland China where the models are actually produced. Most kits are in 1/35 scale and the company offers models of the Tiger II with the early and Production turrets and a complete set of individual track links. The Tiger models are both marketed in two versions, one with parts for extensive interior detailing as shown here. The latter also includes photo-etched brass parts including an incredibly detailed set of 88mm rounds with appropriate notations stamped into the base of each.

Takom's most recent release, at the time of writing, the initial production Tiger II with first model turret, armoured cover for the submersible gear, sheet metal exhaust covers and early pattern fenders. These tanks served with Panzer-Abteilung (Funklenk) 316 in Normandy.

MENG-MODEL

Founded in 2011, this Chinese company largely specialises in modern armour but has recently released two kits of the Tiger II in 1/35 scale to very favourable reviews. British modeller David Parker advised the company during the development of the model and the box art was created by the legendary Masami Onishi who is responsible for the dramatic paintings that accompany many of Tamiya's models. I should mention that a visit to the company's web site can be an exercise in frustration with the products listed here under the names of various dinosaurs. Shown here is the Meng-Model Tiger II with the early Krupp turret. Both models can be built with full interior detail.

Below: part of the extensive interior detailing that can be built in the 1/35 scale Tiger kits.

Meng-Model's Tiger II in 1/35 scale with the early turret and Zimmerit built and painted as a tank of 3.Kompanie, schwere Panzer-Abteilung 503.

HAULER

Based in the Czech Republic, this company produces accessory sets in photo-etched brass and resin in 1/48, 1/35 and even 1/87 scale, a size which complements HO scale railway models. A number of items in the company's extensive range are now produced under the Bren Gun logo.

At right: Tamiya's 1/48 scale Tiger II built with Hauler's photo-etched brass detail set.

Below: The Italeri 1/35 scale Tiger I finished with photo-etched brass parts from Hauler.

MODEL ARTISAN MORI

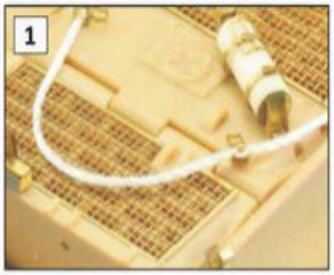
This small Japanese company produces resin upgrade parts for 1/35 scale armour models including detailed commander's cupolas for the Tiger I and Tiger II, for both the Porsche (1) and the Henschel (2) turrets, as well as more general items such as crew uniform (3) and tool sets, including fire extinguishers, tow shackles and bolt cutters, a 20-ton jack and Bosch headlights in kit form.

RB MODEL

RB Model from Poland produce a range of milled aluminium and brass gun barrels and resin accessories for 1/35, 1/48 and 1/72 scale armour models. Shown here below, from left to right, are the 8.8cm KwK 36 L/56 gun for the early model Tiger I, the later muzzle brake fitted to some tanks from April 1944 and beautifully-detailed 8.8cm ammunition in 1/72 scale.

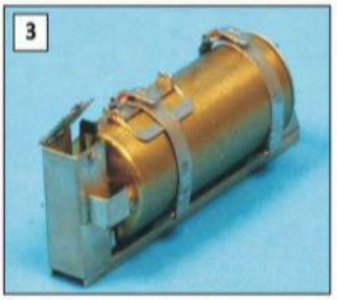
EDUARD MODEL ACCESSORIES

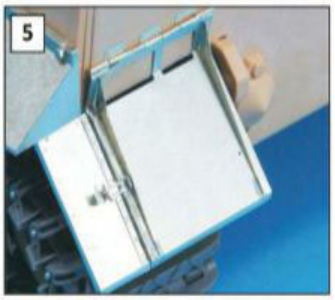
This Polish company has been manufacturing high-quality accessories in photo-etched brass and resin for many years and was one of the earliest firms to offer upgrade sets in the smaller scales. Although the examples shown here are all in 1/35 scale, a number of items are available in 1/48 and 1/72 scale. Shown below are: 1.and 2. Parts from the upgrade set for the Academy mid production 1/35 scale model. 3. Photo-etched brass details for the Dragon Models 1/35 scale late production Tiger.

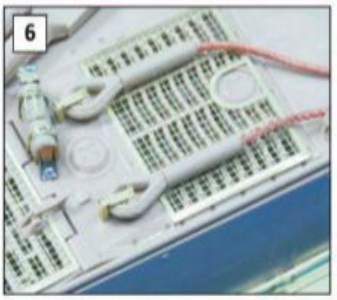


ABER

This Polish company has been manufacturing and selling upgrade sets since 1995, working in photo-etched brass, milled aluminium and brass, stainless steel and even wood. For some time now Tamiya has included Aber products with a number of their models. A full list of the accessories made specifically for the Tiger in all scales would be far too large to reproduce in this book and the reader can find the company's contact details on page 64. Shown here are, 1. Details of the photo-etched brass set for the 1/35 scale late production Tiger I. 2. Generic metal details for the Tiger II turret in 1/35 scale. 3, 4 and 5. 1/16 scale parts including a fire extinguisher, the early style muzzle brake as used on the Tiger I and the Tiger II tanks built with the early Krupp turret and the Tiger I rear fender. 6. Details of the upgrade set for the Rye Field Models 1/35 scale early production Tiger I.

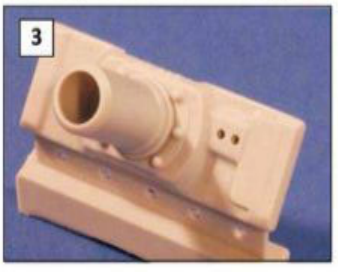






PANZER ART

Based in Poland, this company produces a large range of resin parts for Second World War and modern era armoured vehicles in 1/35 scale. Shown here are, 1. A muzzle brake cover for the Tiger I. 2. Gun mantlet with casting marks for the Tiger II. 3. Strengthened gun mantlet for the Tiger I.

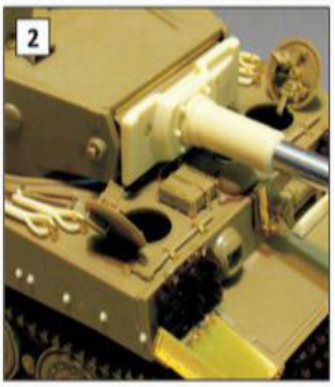


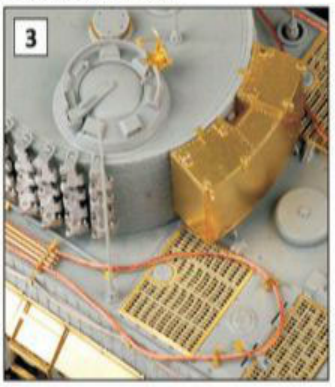
E.T. MODEL

E.T. Model, a relatively new manufacturer from China, produce highly-detailed upgrade sets in 1/72 and 1/35 scale in brass, aluminium and resin. Shown below, from left to right, are the etched-brass Tiger I stowage box in 1/35 scale and parts of the upgrade sets for the 1/72 scale Dragon Models late production Tiger. Most sets are designed, according to the company, to fit specific kits but some, for example the stowage bin at left, are referred to as universal. The company also offers comprehensive detail sets for the initial and late production versions in 1/35 scale.

VOYAGER MODEL

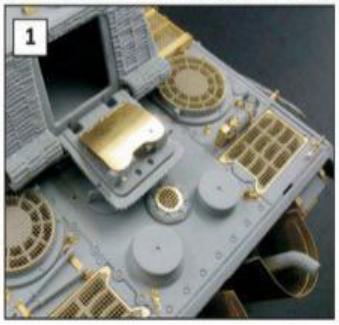
Voyager have been manufacturing highly-detailed and comprehensive upgrade sets for scale models since 2003 with the release of their first products chiefly aimed at 1/35 scale armour modellers. The company also produces turned aluminium barrels with muzzle brakes for both the late and early 8.8cm guns of the Tiger in 1/35 scale. Shown here are upgrade sets for the Trumpeter mid production Tiger (1), the Tamiya late production version (2) and the Dragon mid production tank (3).

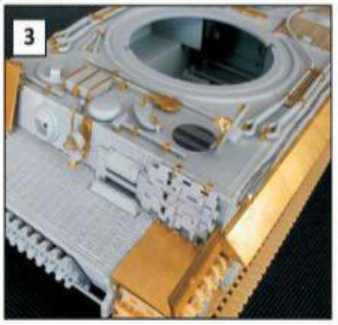




GRIFFON MODEL

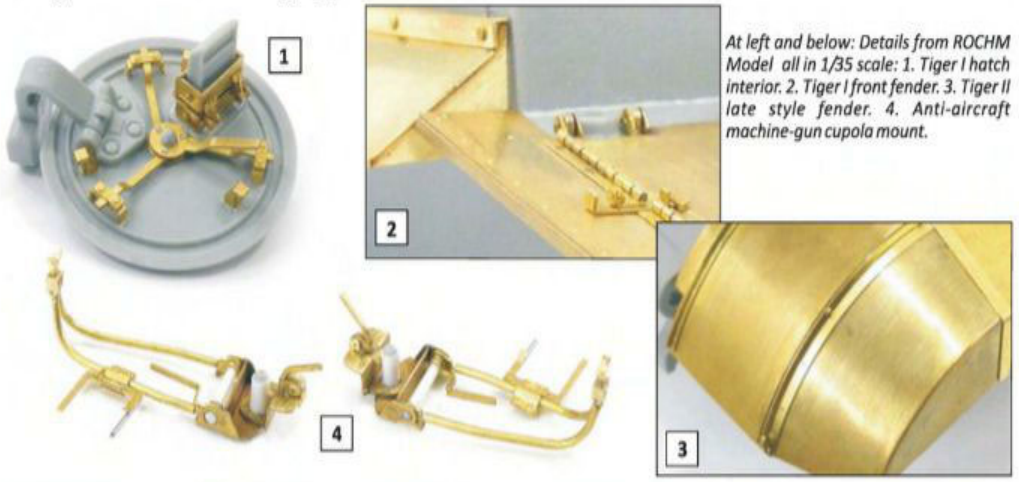
Based in China, this company produces a large range of photo-etched brass sets for the Tiger I and Tiger II in 1/35 scale to fit most manufacturers' kits, although they do recommend Tamiya and Dragon. These sets are of a very high quality and usually include a large number of separate pieces. Shown below are 1. Parts for the Tiger II including the interior of the turret rear access door, the engine grills and brackets for the fire extinguisher, here fitted to the Dragon Models kit. 2. Exhaust manifold covers and rear mudguards and various clamps and brackets for the mid or late production Tiger I. 3. A full photo-etched brass detail set for the mid or late production Tiger I. This set also contains aluminium track pins for the spare tracks and a metal wire towing cable.





ROCHM MODEL

Rochm Model is the brainchild of modeller Sheng Hui whose work has appeared in a number of books in the TankCraft series. Initially specialising in detail sets in resin, photo-etched brass and aluminium for the Tiger I, the company moved onto the Tiger II and is now offering upgrade sets for the Panther and other tanks. These products offer exceptional detail and considering the quality are reasonably priced. Although the catalogue is heavily slanted towards Dragon Models kits, these details would be suitable for most 1/35 scale models.



At left and below: Details from ROCHM Model all in 1/35 scale: 1. Tiger I hatch interior. 2. Tiger I front fender. 3. Tiger II late style fender. 4. Anti-aircraft machine-gun cupola mount.

ROYAL MODELS

This Italian company has been producing high quality accessories and aftermarket parts since the early 1990s under the guidance of its founder, Roberto Reale. The catalogue includes complete upgrade sets in 1/35 scale for the early, mid and late production Tiger I and a limited number of sets in 1/72 and 1/48 scale. Royal Models also offers a number of realistic crew figures for the larger-scale models. Shown here are the brass latches, handles and machine-gun mount for the Tiger II turret (1), turret stowage bin (2) and headlight, hatch interior detail and tools (3), all in 1/35 scale.

AFTERMARKET TRACKS

Most plastic kits today contain realistic tracks made from a form of vinyl which, unlike the older types, can be glued together, or hard plastic individual links. Nevertheless, there are many modellers who wish for the highest level of detail and realism possible and consequently the number of quality aftermarket products available seems to have increased in recent years, despite the extra expense and work required. Motorised models require workable tracks made up from individual links held together by pins, as were the full size items. The examples shown here, all in 1/35 scale, are 1. Later Tiger I tracks in white metal from Russian company Master Club. 2. Later Tiger I tracks in plastic from AFV Club. 3. Individual Tiger I track links in white metal and brass from R Model.

Photographed in the Rue Georges Clemenceau in Villers-Bocage shortly after the battle of 13 June 1944 this tank is Tiger 112 of 1.Kompanie. Commanded by Oberscharführer Heinrich Ernst this vehicle is supposed to have been disabled by a British Sherman Firefly which fired through the window of a building.

.....continued from page 16

Turning into the main street the Tiger immediately ran into four Cromwell tanks parked end-to-end. Opening fire Wittmann's gunner (1) was able to destroy three of the British tanks while the fourth backed into the garden of a nearby house and merely watched as the Tiger proceeded down Rue Georges Clemenceau heading west to where the road becomes Rue Pasteur.

Minutes later Wittmann spotted a number of enemy tanks sitting on the road to Le Mesnil, today Rue du Canada, and a brief firefight ensued during which the Tiger was hit at least once but the armour was not penetrated. The Germans later insisted that the round came from the 17pdr gun of a Sherman Firefly although the only real evidence that this is correct seems to be the fact that one of these tanks was present. Wittmann later stated that this hit rendered his radio useless. Wittmann ordered his driver to reverse and he was able to turn around in the Place Jeanne D'Arc only to came face-to-face with the Cromwell that had escaped earlier. The British tank was able to get off two accurate shots but both were deflected by the frontal armour of the Tiger at a range that could not have been more than 75 metres and a single round from the German tank's 8.8cm gun was enough to despatch the Cromwell, killing two of the crew and wounding the commander.

Leaving the main road, probably after turning into Rue Pierre Curie, Wittmann headed east and came up behind a squadron of British tanks at the junction of the N175 and the road to Tilly-sur-Seulles. Some accounts suggest that Wittmann left the battle here to refuel and rearm at a command post of Panzer-Lehr-Division which was close by and this may be correct as the action described next is thought to have taken place at around 10.00am. It was here that Wittmann famously caught the British column strung out along the N175 and disabling the lead and tail vehicles, effectively trapped the remainder which were then destroyed, seemingly at leisure. The exact number has long been the subject of debate.

By now the other tanks of Wittmann's company had joined the fight and as early as 8.00am (2) the Tigers of 1.Kompanie, which had spent the previous night some 8 kilometres north-east of Villers-Bocage, were moving along the N175 towards the town.

The first company commander, Hauptsturmführer Rolf Möbius, stated that five Cromwell tanks were abandoned here by their crews without firing a shot. The area around the road junction to Tilly-sur-Seulles was now the focus of the battle and the British attempted to move a troop of four Cromwell tanks and a Sherman Firefly around the southern edge of Villers-Bocage to outflank the Germans but were stopped by a railway embankment.

Returning the way they came, the British tanks set up an ambush position off Rue Georges Clemenceau, supported by a single 6pdr anti-tank gun, the ranges so short that all the weapons were sighted through their barrels. With the British

.....continued on page 51

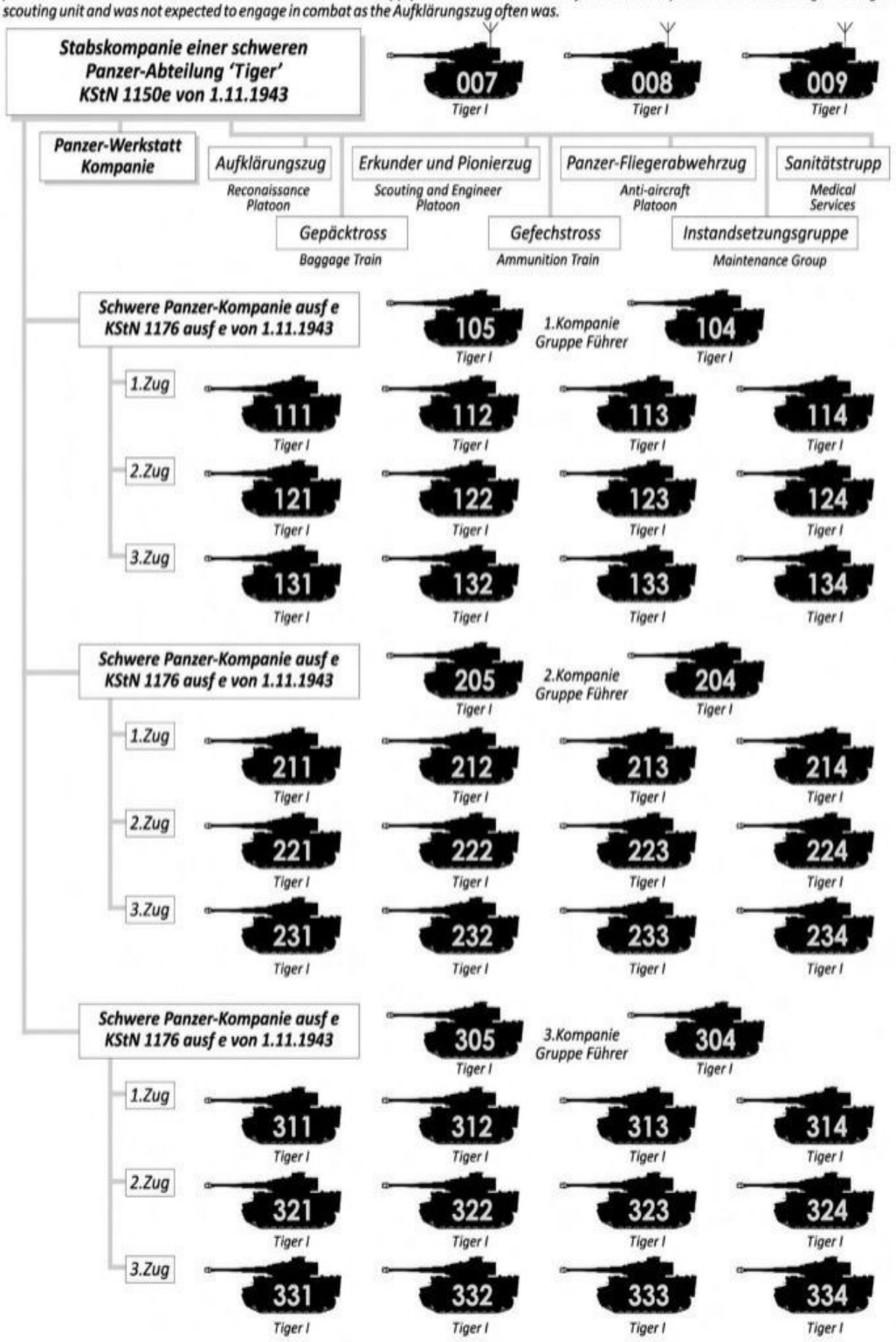
Notes

1. Most sources state that the tank's gunner was Balthasar 'Bobby' Woll who had been a member Wittmann's crew in Russia. However, by the time of the Normandy battles Unterscharführer Woll had been promoted to the command of his own tank, Tiger 212. Interestingly, this is almost certainly one of the disabled tanks photographed in Villers-Bocage after the battle raising the possibility that Tiger 212 was Wittmann's tank on the day and that Woll was indeed his gunner. Like almost every aspect of this story it is a subject of intense debate.

2. The time given here is certainly open to question. In addition, several Pzkpfw IV tanks of Panzer-Lehr-Regiment 130, which had been stationed nearby at Parfouru-sur-Odon, also took part. In addition to the 2.Kompanie tanks mentioned above Tiger 231 has been identified as one of the vehicles knocked out in Villers-Bocage. Wittmann himself mentioned this tank.

SCHWERE SS-PANZER-ABTEILUNG 101, JUNE 1944

In November 1943 new Kriegstärkenachweisung (KStN) were issued for heavy Panzer units that were being formed or rebuilt at that time. These were not supeceded by new orders until 1 June 1944 and as this battalion had effectively completed its training by that time, and would be in combat in just over a week, it is unlikely that any major aspects of the June re-organisation were implemented. In any case, the number of tanks remained unchanged. The organisation of the Panzer-Werkstatt-Kompanie probably remined unchanged from KStN 1187b von 24 April 1942 KstN, which was introduced for the Waffen-SS heavy units in July 1943, and it is possible that the battalion headquarters was organised using Stab Panzer-Abteilung KStN 1107 von 1 April 1943 which was a separate element to the Stabskompanie or the two may have been amalgamated. The three command Tigers of the headquarters were referred to, somewhat confusingly, as the Nachrichtenzug, or signals platoon. Not shown here are the smaller maintenance and supply units under the control of the Stabskompanie. The Erkunderzug was a light scouting unit and was not expected to engage in combat as the Aufklärungszug often was.



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tanks around the north-east edge of Villers-Bocage either destroyed or disabled, the Germans headed back along Rue Georges Clemenceau and almost at the end of Rue Pasteur, Wittmann's Tiger was hit by the 6pdr, the shell smashing into the left-hand side drive sprocket.

Two Tigers and a Pzkpfw IV tank that had accompanied Wittmann were also knocked out. The fighting around Villers-Bocage continued into the afternoon and although the Germans were later pounded by Allied fighter-bombers, which did little more than hit the already-disabled tanks, infantrymen of Panzer-Lehr-Division were able to occupy the town by nightfall.

The action at Villers-Bocage, although brief and involving relatively small numbers, is probably the most famous battle involving the tanks of schwere SS-Panzer-Abteilung 101 and deserves to be included here, although many aspects are the subject of continuing debate.

For his part Obersturmführer Wittmann, who had escaped unharmed, was promoted and recommended for the Swords to his Oakleaves of the Knight's Cross. Already something of a celebrity in Germany, he was personally decorated by Hitler.

Unfortunately the award recommendation written by Obergruppenführer Dietrich, as commander of I.SS-Panzerkorps, is probably the most unreliable account of this action and also the most often quoted. Although Wittmann was officially credited with the destruction of twenty-five enemy tanks during the battle, no less an authority than Oberst Schneider claims the number could not have been more than seven (1). His decision to attack alone is difficult, but not impossible, to understand but his reason for remaining out of contact with his company, the damaged radio, seems rather too convenient.

But there can be no doubt that Wittmann's timely action did help prevent a major Allied breakthrough and his personal courage cannot be questioned.

Until the end of June the battalion remained in the area between Villers-Bocage and Cahagne helping to block the

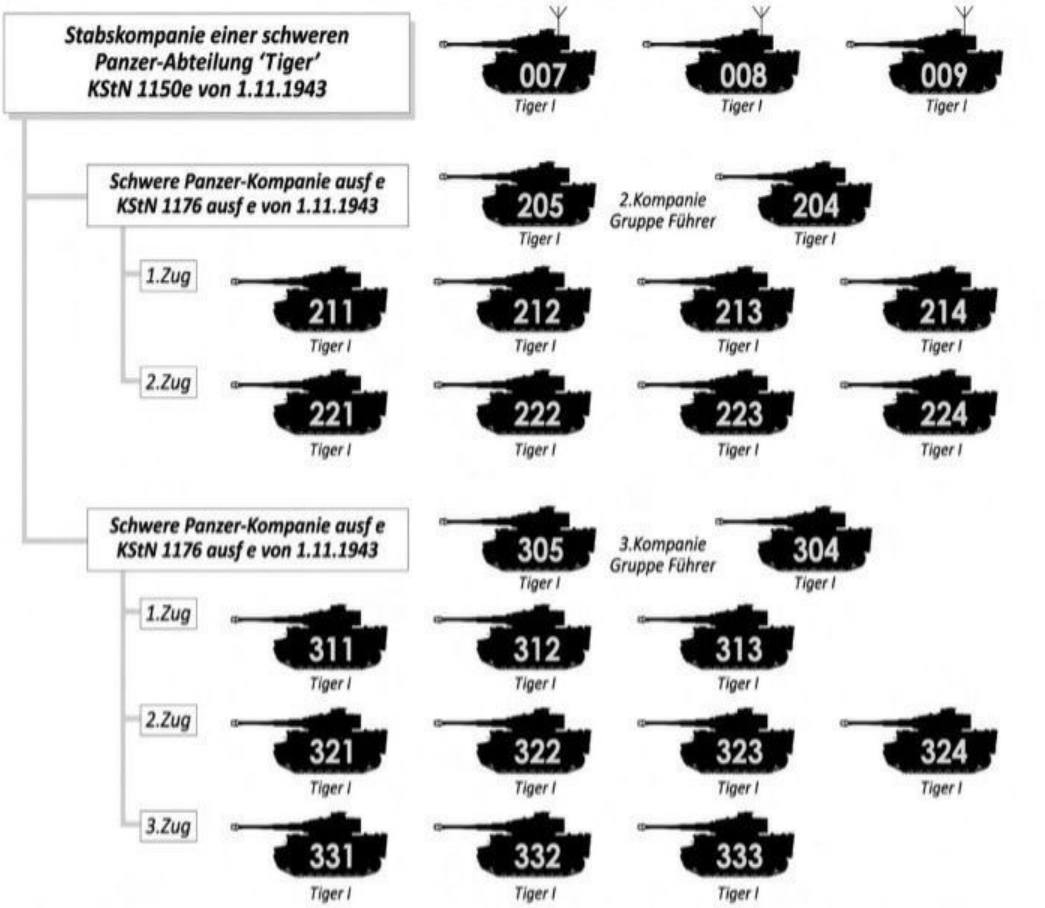
Notes

1. Wittman himself, in a radio interview conducted shortly after the battle, stated that he had destroyed twenty-one 'Kampfwagen', probably meaning armoured vehicles and not necessarily tanks.

This mid production Tiger I of 3.Kompanie, schwere SS Panzer-Abteilung 101, commanded by Oberscharführer Rolf von Westernhagen, was abanded between Rauray and Tilly-sur-Seulles on 28 June 1944. Coincidentally the Tiger I shown on page 3 was lost on the same day. Note the apertures for the T.Z.F.9b binocular gun sight on the mantlet to the right of the barrel. This sight was replaced in production by the T.Z.F.9b monocular version in late March or early April 1944 and the new mantlets had just on hole.

KAMPFGRUPPE, SCHWERE SS-PANZER-ABTEILUNG 101, AUGUST 1944

By August 1944 the battalion had been reduced by a steady flow of casualties and the loss of 1.Kompanie which had been sent to Germany to be re-equipped with the Tiger II. In the first weeks of the month, while supporting 12.SS-Panzer-Division, a number of the tanks shown here were also lost including Tiger 007 in which Hauptsturmführer Wittmann was killed. Although official estblishments would have been effectively irrelevant by this time I have shown the KStN that were probably used during the battalion's formation.



Notes

1. Westernhagen never fully recovered from a head wound received on the first day of Operation Citadel in July 1943 although he did return to command the battalion just before the Ardennes Offensive. He died in March 1945, officially the victim of a bombing raid but a number of respected sources, including Schneider, claim that he committed suicide.

continued attempts to take Caen, reporting the loss of fifteen tanks during the month. On Saturday, 1 July 1944, with just eleven operational Tigers, the battalion was employed west of Maltot in the fighting for Hill 112 and on the following Tuesday the tank crews of 1.Kompanie were moved to Paderborn in Germany to be re-equipped with new Tiger II tanks, handing over the company's three remaining vehicles to Obersturmführer Helmut Wendorff's 3.Kompanie.

On 13 July the battalion commander, Obersturmbannführer Heinz von Westernhagen, was ordered to take convalescent leave by Dietrich and was replaced by Wittmann (1).

On 18 July the British launched Operation Goodwood and the Tigers were employed in the fighting to deny Bourguébus Ridge to the Allies, particularly in the counterattacks around Hubert-Folie on the Caen to Falaise road. The fighting here was particularly fierce and confused, with the commander of 3.Kompanie, Hauptsturmfuhrer Schweimert, being killed when his Tiger was hit by a German anti-tank gun. By this time the battalion's high casualty rate had started to take effect and Schweimert was replaced by Hauptsturmführer Franz Heurich, the maintenance officer.

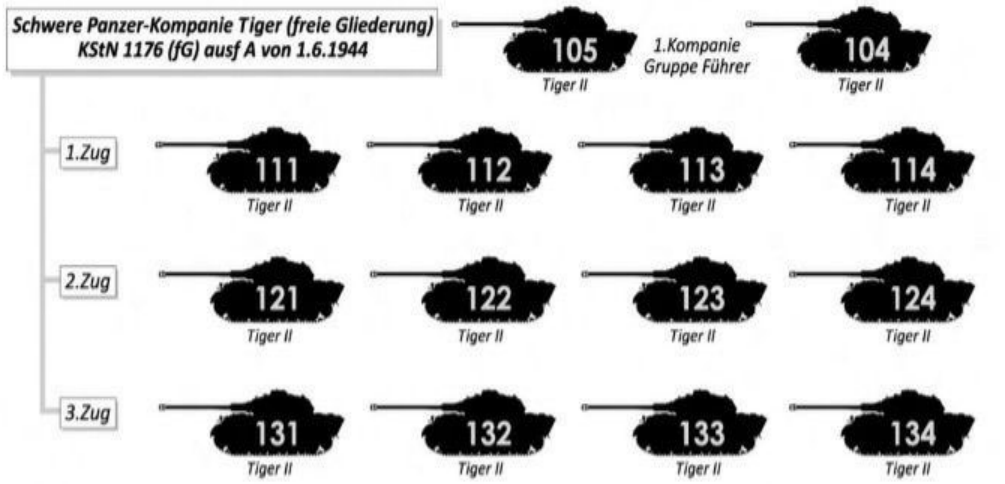
The battalion remained in this area until the end of the month, reporting on the first day of August 1944 that twenty serviceable tanks were on hand. Confusingly, a report prepared by I.SS-Panzerkorps dated 1 August 1944 states that the second and third companies were both equipped with ten tanks each while the headquarters had five Tigers.

On Saturday, 5 August the Tiger II tanks of 1.Kompanie began leaving Paderborn for the front but on the following Tuesday the battalion was dealt a particularly heavy blow when Hauptsturmführer Michael Wittmann was killed.

In an attempt to head off the lead elements of the 1st Polish Armoured Division, Wittmann had led a force of six Tigers, including the tank commanded by Oberscharführer Rolf von Westernhagen,

1.KOMPANIE, SCHWERE SS-PANZER-ABTEILUNG 101, AUGUST 1944

In early July 1944 the battalion's 3.Kompanie was withdrawn to Germany to be fully re-equipped with fourteen Tiger II tanks. These vehicles were shipped from the Heereszeugamt between 28 July and 1 August 1944, all fitted with the later turret with track hangers and spare tracks and Pilze sockets on the turret roof, suggesting that they were assembled at some time after mid-June. The company returned to France on 18 August but by the first days of the following month had lost all but one of its tanks. As the company's re-organisation took place after the 1 June 1944 establishments had been issued I feel certain that the KStN shown here would be correct. This would not have affected the number of tanks on hand but would have transferred any transport or support services, in accordance with the freie Gliederung principles, to battalion level command. Not included here are the two Tiger II tanks of schwere Panzer-Abteilung 503 handed over to the company on 26 August 1944.



the wounded commander's brother, northwards towards Saint-Aignan-de-Cramesnil, just 10 kilometres south of Caen. As the German tanks approached Gaumesnil, moving parallel to the Falaise to Caen road, they failed to notice a troop of British Sherman tanks that had taken cover in a nearby wood. The British tanks opened a devastating fire and Wittmann's Tiger, positioned at the rear of the German formation, was hit by two rounds that slammed into the hull side near the fuel tank, causing an explosion of such force that the turret was lifted from the hull. Within seconds the tank's ammunition exploded blowing the turret completely clear of the vehicle and ripping off both tracks. Of the other six tanks, five were knocked out and the last abandoned (1). In total the battalion lost seven tanks on that day.

Less than a week later, on 14 August 1944, Obersturmführer Wendorff, the commander of 2.Kompanie, was killed when his Tiger was attacked by two Allied Sherman tanks between Sassy and Maizieres, south-east of Caen, and on the following day the remaining tanks began to retreat towards the Seine crossings. In the ensuing battles the tanks operated in small groups and sometimes individually and by 25 August 1944 ten surviving Tiger I tanks of the second and third companies reach the Seine between Rouen and Elbeuf where a number were ferried across the river.

On 23 August the Tiger II tanks of the battalion's 1.Kompanie went into combat for the first time near Guitrancourt in support of a Kampfgruppe made up of Luftwaffe ground units and although they were successful in terms of ground retaken, two tanks were destroyed.

On 26 August 1944 two tanks of schwere Panzer-Abteilung 503, both with the early Krupp turret, were taken over by the company and all the serviceable the Tigers took part in an attack that lasted well into the night against the Seine bridgehead established by the Americans at Limay.

On 28 August 1944 the surviving tanks of 2.Kompanie, which may have been as few as two, took part in a counterattack against the Vernon bridgehead which the Allies had been able to establish on the east bank of the Seine (2). During the evening of 30 August 1944 the same tanks ran out of fuel after fighting a brief action near Brunehamel on the edge of the Ardennes and were destroyed by their own crews. On the same day the last Tiger I tank of the battalion was abandoned near the Bois Bourdon north of Mauberge close to the Belgian border.

Withdrawing towards Magny-en-Vexin and then Brunehamel, Hauptsturmfuhrer Möbius with two Tiger II tanks of 1.Kompanie managed to reach Huy on the Neuse River by 4 September 1944 but the next day one of the Tigers ran out of fuel near La Capelle, 60 kilometres north-east of Saint-Quentin. The crew did their best to destroy the main gun and engine but enough of the tank survived and is today on permanent display at the Deutsches Panzermuseum in Münster. The last tank was successfully evacuated to Germany where it was allocated to SS-Panzer-Ersatz-Abteilung, a replacement and training unit based at Augustdorf.

Notes

1. The German authorities refused for some time to admit that Wittmann was in fact dead and reported him as missing, even to his wife. The myth that his tank had been destroyed by Allied fighter-bombers was spun almost immediately and persisted for many years.
2. Schneider mentions that the officer commanding 2.Kompanie since the death of Wendorff was an Oberscharführer Brand but I feel certain that it is Jürgen Brandt who had fought at Villers-Bocage with Wittmann.

Notes

1. A total of forty-five Tiger I tanks were shipped from the Heereszeugamt between 21 April and 29 May 1944. On 6 June an official ceremony was conducted to formally hand the tanks to their crews. Interestingly a large number of the battalion's personnel were ethnic Germans from Romania.

Schwere SS-Panzer-Abteilung 102. In April 1943, when the original order to create a heavy tank battalion for I.SS-Panzerkorps was issued, 2.SS-Panzergrenadier-Division had supplied 120 men who eventually arrived at Senne in the following month to begin their training. In July they were transferred back to the Eastern Front and attached to the Das Reich division with a view to continuing their training in an operational environment, although a number of crews found themselves fighting as infantry. In October all were returned to Germany where, on 4 November 1943, the battalion received its official title of schwere SS-Panzer-Abteilung 102. The battalion completed its training at Wezep in Holland, the last crews receiving their tanks on the very day the Allies landed in Normandy (1).

The entire complement of forty-five Tiger I tanks were late model vehicles with the steel-tyred roadwheels and monocular gun sight although a number lacked the sockets, or Pilze, to hold the 2-ton jib boom suggesting that they were assembled in April or May 1944. A further shipment of six tanks in late August 1944 never arrived.

Elements of the battalion began moving towards the front by rail as early as 11 June 1944 but it was not until 9 July that the first tanks went into action when the first and second companies took part in a counterattack between Maltot and Saint-Martin-de-Fontenay as part of the battle to gain control of Hill 112. On the following day, 3.Kompanie, which must have arrived during the hours of darkness, was thrown into an attack on the enemy positions around Hill 112 and lost three Tigers while the other companies ran into the advance of two British armoured regiments north-east of Baron-sur-Odon along the Caen to Villers-Bocage road. Until the end of the month the battalion remained in this area, at times attached to 10.SS-Panzer-Division, taking part in the defensive battles to deny this important high ground to the enemy, losing seven tanks totally destroyed.

On 1 August 1944 2.Kompanie was moved to Roucamps, about 14 kilometres to the south-west, and 1.Kompanie was deployed around Vire. On the following day the battalion was attached to 9.SS-Panzer-Division and took part in a series of counterattacks between Vire and Caen. On 9 August 1944 the Allies broke through the German defences at Barbery, about 3 kilometres west of the Caen to Falaise road, and the eight serviceable tanks of 2.Kompanie mounted a counterattack until about 7.00pm when the company was ordered to withdraw to Château de la Motte, south of Acqueville, leaving the Tiger of Unterscharführer Moldenhauer burning on the battlefield. On 14 August two more Tigers were lost in the fighting around Potigny and within two days the entire battalion, which was strung out just 500 metres north of Falaise, had been reduced to six combat-ready vehicles.

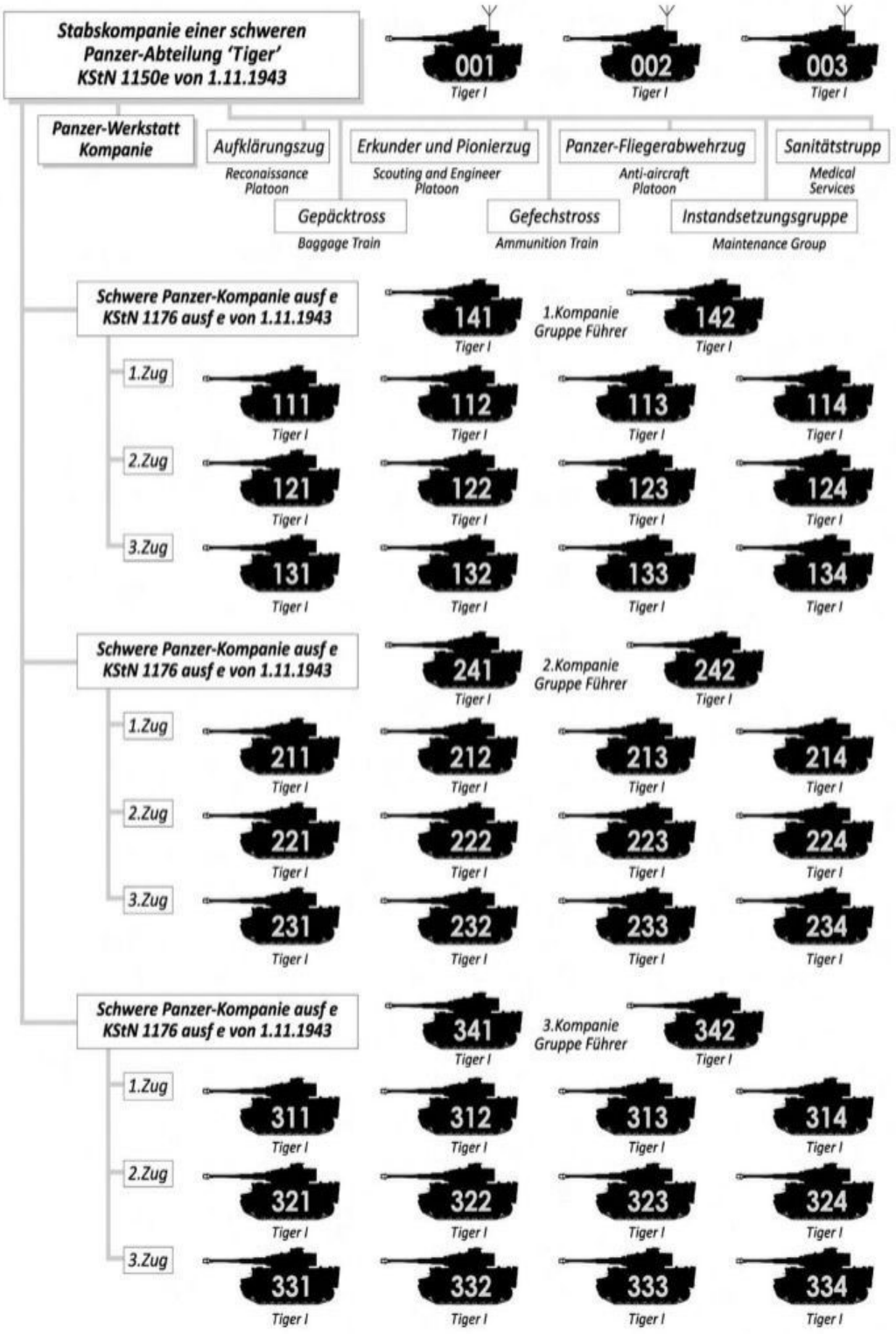
On 17 August the tanks of the battalion's first company and Tiger 241 of the second company were withdrawn to Villy to rest and resupply while the remaining tanks of 2.Kompanie pushed back an Allied advance near Damblainville, on the western side of the Falaise to Saint-Pierre-sur-Dives road. Although a number of

.....continued on page 56

Although of mediocre quality this photograph is interesting in that it shows one of the Befehlstiger command tanks of the Stabskompanie of schwere SS-Panzer-Abteilung 102. In the original print it is possible to see what may be a number 9 on the turret side. German researcher Hartmut von Holdt has suggested that this tank my be number 92 or 93.

SCHWERE SS-PANZER-ABTEILUNG 102, JUNE 1944

As the initial process of formation for this battalion began in mid-1943 and all forty-five Tigers had been received by the end of May 1944 I have assumed the November 1943 establishments were used as I have for schwere SS-Panzer-Abteilung 101 and the organisation of the Panzer-Werkstatt-Kompanie almost certainly remained unchanged from KStN 1187b von 24 April 1942, which was introduced for the Waffen-SS heavy units in July 1943. As for the other Waffen-SS battalion the headquarters may have been organised using Stab Panzer-Abteilung KStN 1107 von 1 April 1943 but I have been unable to confirm this. Neither battalion received its full allocation of halftracks and transport vehicles and the support elements of the Stabskompanie may not have been organised exactly as shown here. At some time, perhaps July or August, the turret numbers of the Nachrichtenzug Tigers were changed from 001 and 002 to 91 and 92, probably to make the tanks less tempting targets. I have been unable to find a photograph of a tank numbered 93 and it may have not existed by that time.



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Notes

1. In addition to the ferries, twenty-four separate crossing sites were in operation along the Seine and despite the railway bridge at Rouen being the best known, and possibly the most sturdy, the pontoon bridge at Poses near Pont l'Arche was the busiest, where an estimated 16,000 vehicles crossed in the space of five nights and three days.
2. I should mention that Fey's book, *Armor Battles of the Waffen-SS 1943-45*, has been heavily criticised over a number of inaccuracies and I have not been able to confirm the details of this story.

enemy vehicles were destroyed, the company lost one Tiger and a further two had been left in Falaise to support the Grenadiers of the Hitler Jugend division meaning that the battalion had been reduced to twenty-seven tanks, many in need of repair. The next day saw further heavy fighting around La Hogouettes and Abbaye, on the southern outskirts of Falaise, and in the late afternoon the tanks are ordered to withdraw to the battalion command post outside Vignats, about 4 kilometres further to the south-east. Earlier that day the battalion commander Obersturmbannführer Hans Weiss, who had been badly wounded, was taken prisoner.

By 19 August 1944 the tanks remaining in the Falaise area were ordered to break out towards Nécy but only a single Tiger, the tank of Hauptsturmführer Kalss, was able to get through. The next day several tanks conducted a counterattack from Vimoutiers towards Trun and very soon after setting off, Tiger number 224 of Unterscharführer Reisske was abandoned after breaking down. This may be the Tiger which is today on display just outside Vimoutiers but its identification has not been confirmed and other units were in the area.

On 21 August 1944, after a brief skirmish with an American armoured unit between Coudehard and Champosoult, the tanks of Untersturmföhrer Lenz and Hauptsturmführer Kalss, the commander of 1.Kompanie, ran out of fuel and had to be destroyed by their crews. On the same day, what were probably the last two tanks of 3.Kompanie, commanded by Unterscharführer Ernst Streng and Hauptscharführer Albrecht Rosowski, managed to reach Le Sap, south-east of Vimoutiers, and after scrounging some fuel from a unit of 9.SS-Panzer-Division pressed on towards Broglie in hopes of finding the battalion's maintenance company. Late in the afternoon of the following day the 3.Kompanie Tigers reached Broglie only to find that the maintenance company had moved and Rosowski's tank was abandoned outside Mandeville. Unterscharführer Ernst Streng was able to nurse his tank as far as the outskirts of Elbeuf where it was destroyed by its own crew who reached the Seine on foot (1).

On 30 August 1944 most of the tanks that had reached the Seine were disabled by explosive charges on the east bank by their crews. On 1 September the battalion's last surviving tank reached Genval where Schneider says the main gun was disabled by the crew. There is, however, evidence that the last Tiger may have gone on to Cologne in Germany and this is discussed on page 26 of the Camouflage & Markings section.

In his account of the Normandy fighting Willi Fey, who served with the battalion, mentions an action that does not seem to appear in any other sources. On the orders of Hauptsturmführer Alois Kalss, Oberscharführer Fey and several men of the battalion returned to Rouen to destroy the three operational Tigers which had been abandoned on the east bank of the Seine. Not content with remaining in the area to watch the explosions, they also destroyed two Panthers, which had been claimed by the French Resistance, using Panzerfausts before returning to their own lines in a stolen rowboat (2).

The battalion's last survivor of the Normandy fighting, Tiger 132 of 1.Kompanie, photographed in September 1944 in Cologne. At some time extra kill rings were painted on the barrel and this is shown on page 26 of the Camouflage & Markings section of this book.

Tiger 231 of 2.Kompanie, schwere SS-Panzer-Abteilung 102 photographed in Normandy during the summer of 1944. This image provides a good view of the 20-ton jack, the sheet metal exhaust covers and how easily they were damaged, and the engine access door. The round armoured cap on the latter is the type fitted from about May 1944. Commanded by Untersturmführer Hans Loritz, this late production model was destroyed on 14th August 1944 during an attack at Soulangy, north of Falaise.

The first Tiger I tanks were issued to operational units in late 1942 but as this book covers just those formations that served in the Normandy battles I have limited this section to a description of the identifying details and modifications of what is commonly referred to as the mid production Tiger I, which began leaving the assembly lines in July 1943, and the late version up to the end of production in August 1944. It should be mentioned that the latter date was chosen to give the reader a more complete picture of the tank's production history and that the last vehicles allocated to the units in Normandy were the Tiger I tanks shipped from the Heereszeugamt to schwere Panzer-Abteilung 503 between 11 and 17 June 1944 and so it is unlikely that any of the modifications that were introduced after that time would have been seen in northern France during the summer of 1944.

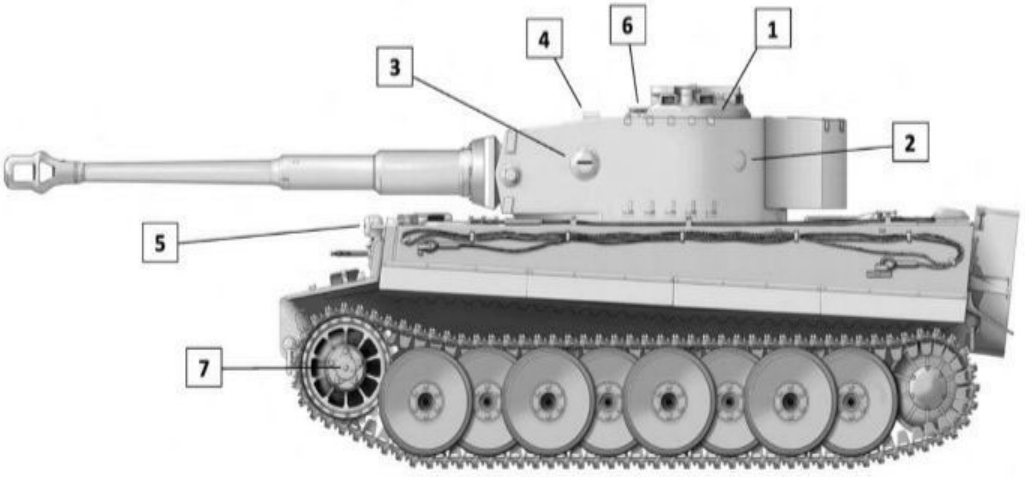
The Tiger II was not a development of the Tiger I but rather a completely new design and as it was envisaged that the Tiger II and the proposed Panther II would eventually share a number of important features, particularly the steering gear and tracks. The basic silhouette of the Tiger II owes more to the Panther than it did to its predecessor.

During the development stage, Friedrich Krupp AG had been contracted to build the turrets for the production hulls and had partly completed 100 units before 17 February 1943 when the order was cancelled. It was decided that as fifty of these turrets could be made ready in a very short time they would be utilised as an interim measure and the 25mm-thick roof plates of each turret were cut out and replaced with plates of 40mm thickness. As many as sixteen of these turrets, perhaps more, had a hole cut in the side on the left for the commander's viewing port or Schaulock which was plugged and welded shut. On tanks coated with Zimmerit this appears as a flat circular area in the turret's curved side. These turrets were fitted to the first production hulls beginning with chassis number 280001 although the sequence was interrupted after 280047.

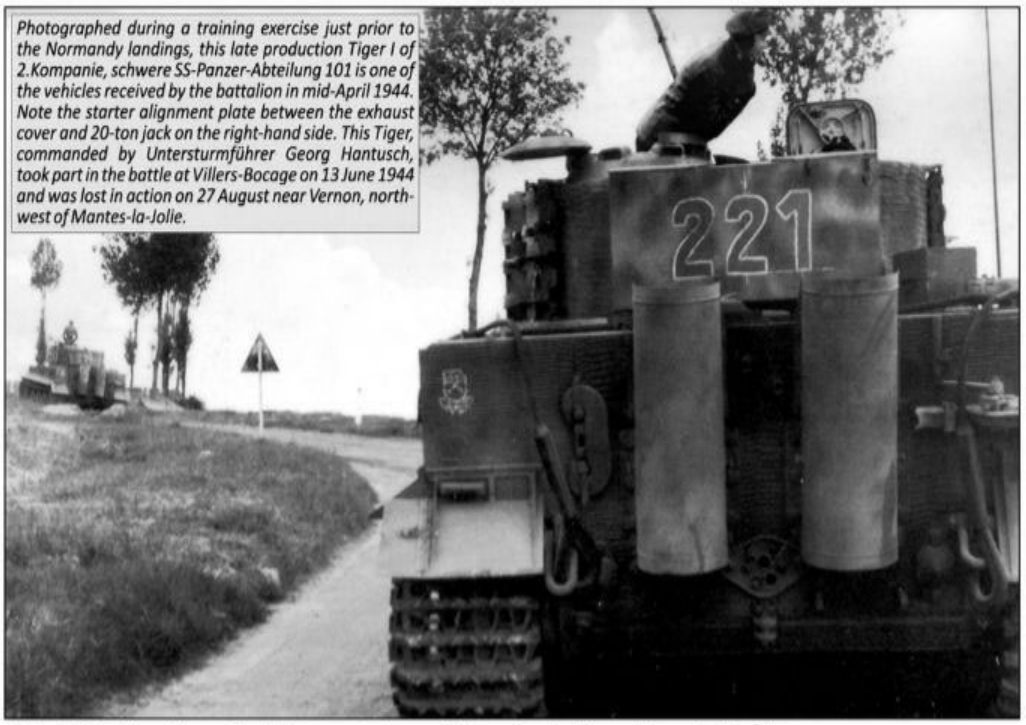
A redesigned turret was accepted for production as the Serien-Turm or series turret, sometimes called the Produktions Turm, and was fitted to the production hulls starting with chassis number 280048. Today the original fifty turrets are often erroneously referred to as the Porsche Turm, while the production turret is just as incorrectly known as the Henschel Turm, although both were designed and largely constructed by Krupp with the final assembly completed by Wegmann. Once the construction of the turret was complete, the final assembly was undertaken at Henschel's Kassel plant, just a short distance from the Wegmann & Co., factory. Each chassis was given its own unique number or Fahrgestellnummer (Fgst Nr) while each turret could also be identified by a number, here referred to as a Turm Nr.

As the last Tiger II tanks to serve in Normandy were those allocated by the Heereszeugamt to schwere SS-Panzer-Abteilung 101 on 1 August 1944, I have only included only those modifications introduced prior to that time.

A detailed examination of the earlier modifications incorporated into the Tiger I production vehicles can be found in *Tiger I: German Army Heavy Tank Southern Front 1942–1945, North Africa, Sicily and Italy* and *Tiger I: German Army Heavy Tank Eastern Front, Summer 1943* while the features of the Tiger II tanks assembled from August 1944 are described in *Tiger I and Tiger II Tanks: German Army and Waffen-SS, The Last Battles in the West, 1945.*

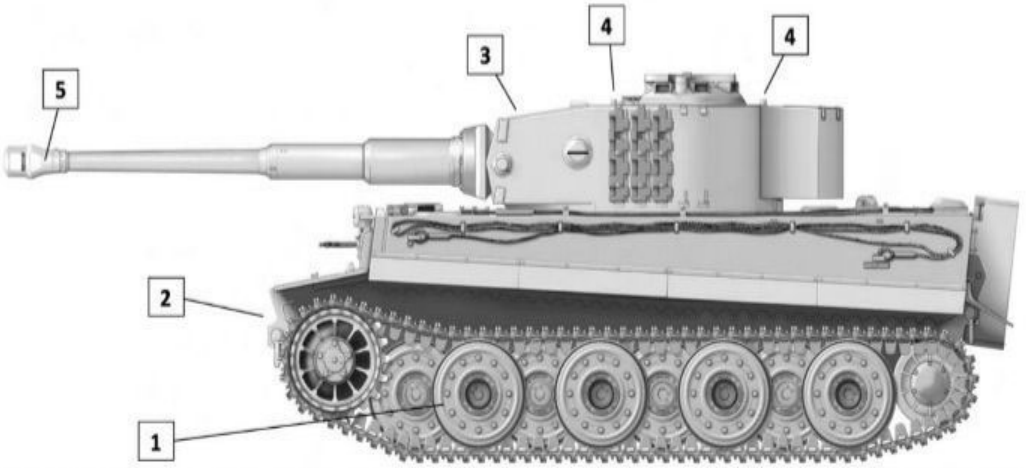


Tiger I, mid production model completed October 1943. The new turret features the simplified turret ring and cast cupola (1). The large pistol port on the turret side has been replaced by a plug (2) and the turret vision ports (3) now have a wider slit and lower profile. The loader's periscope has a wider armour guard (4) and the smoke candle and S-Mine dischargers have been deleted. A single headlight is mounted at the centre of the hull front plate (5) and the ventilation fan has been moved from the rear of the turret roof to a point directly over the centre of the gun breech (6). The flattened drive sprocket (7) was introduced in April 1943 and the Feifel air-filtering system, which had been a distinctive feature of the early production vehicles, was discontinued in the following October. From August 1943 all tanks were covered in Zimmerit anti-magnetic mine paste, which I have omitted here for clarity. Not visible on our drawing are the Gleitschulzpickeln tracks and the starter crank handle which is now stowed on the hull deck by the antenna base. The tanks allocated to schwere SS-Panzer-Abteilung 101 prior to April 1944 were all of this type.



Photographed during a training exercise just prior to the Normandy landings, this late production Tiger I of 2.Kompanie, schwere SS-Panzer-Abteilung 101 is one of the vehicles received by the battalion in mid-April 1944. Note the starter alignment plate between the exhaust cover and 20-ton jack on the right-hand side. This Tiger, commanded by Untersturmführer Georg Hantusch, took part in the battle at Villers-Bocage on 13 June 1944 and was lost in action on 27 August near Vernon, north-west of Mantes-la-Jolie.

July 1943. From Turm Nr.391, mounted on Fgst Nr.250391, a redesigned turret was introduced. The commander's cupola was now made from a cast armoured ring fitted with seven periscopes, each with an armoured cover, and a hatch with a pivoting arm. On the first few cupolas, perhaps as many as thirty, the hatch swung towards the front and was later redesigned to open towards the rear. A partial ring, welded to the tops of the periscope guards, acted as a track for the anti-aircraft machine-gun mount. A new loader's periscope was installed with a wider armoured cover and the loader's hatch was given a modified lock which could be adjusted from the outside. The exhaust fan on the turret roof was provided with a new armoured guard and moved from the rear of the turret roof to a position in front of the cupola directly above the gun breech. The large pistol port on the left turret rear was replaced by a simple plug. The fasteners for the track replacement cable were moved to new positions along the hull left side and a single headlight was placed at the top left corner of the hull front replacing the two headlights mounted at each corner. In the previous month, beginning with Turm Nr.286, the smoke candle dischargers, or Nebelwurfgeräte, were deleted.



Tiger I, late production model completed June 1944. These late production tanks can be easily identified by the steel-tyred road wheels (1) and notched hull extensions (2). Also shown here is the two-piece 40mm turret roof (3), the sockets for the 2-ton jib boom (4) and the lightweight muzzle brake (5). Not visible in our drawing is the single aperture of the gun mantlet introduced with the T.Z.F.9c gun sight, the turret ring guard, the Nahverteidigungswaffe close defence mortar, the countersunk loader's hatch, the drain slits cut into the cupola and the changes to the escape hatch.

Notes

1. There is some debate about the date of introduction with July and September also being given.
2. These were intended to enhance cross-country running but also to preserve road surfaces.

August 1943. To simplify production all deep wading components were dropped. The vision slits on the turret sides were redesigned with a wider slit allowing for better all-round vision and with a lower profile. Beginning with Fgst Nr.250461, redesigned fasteners to hold the track replacement cable were welded to the hull side. A thick paste commercially known as Zimmerit was applied in a pattern of ridges to all vertical surfaces that could be reached by a man of average height (1).

September 1943. Beginning with Fgst Nr.250496, large hooks, sometimes referred to as 'C' clamps, were mounted on the rear hull to the left of the exhaust guard and on the hull deck to the right of the driver's hatch.

October 1943. New tracks with Gleitschutzpickeln, or metal chevrons, were introduced from Fgst Nr.250570 (2). The Feifel air filters, together with the brackets for the hoses and ductwork, were discontinued. The S-Mine dischargers on the hull were dropped from production. The outer disc on the loader's hatch was discontinued. Beginning with Fgst Nr.250570, the crank handle was moved to a position near the antenna. The track tool box on the left hull rear plate was discontinued.

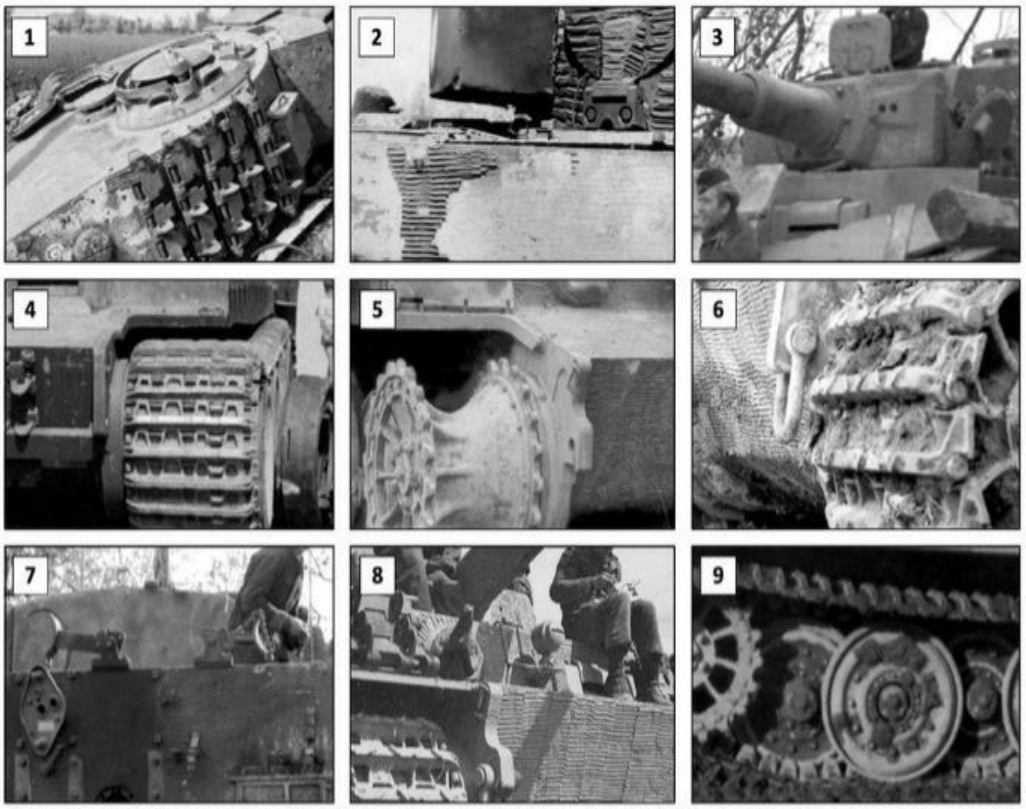
November 1943. Beginning with Fgst Nr.250635 and ending with Fgst Nr.250875, an external travel lock for the main gun was installed on the rear hull at the right corner. Also during November eighteen Panzerbefelswagen command tanks were converted by having the base for the Sternantenna D covered by a metal plate and the aperture for the turret roof antenna plugged. The antenna base on the left side of the hull deck was retained and used for the FuG 5 radio.

December 1943. The single headlight was moved to the centre of the front plate. The mounts for the Feifel air filters were no longer attached.

January 1944. A 20-ton jack with new mount replaced the 15-ton model from Fgst Nr.250772. The fasteners and shovel on the glacis were dropped from production as was the turret pistol plug. Hull extensions at the front were notched to allow freer movement of the towing shackles and the hull extensions at the rear were also reshaped.

February 1944. Rubber-cushioned, steel-tyred road wheels were introduced beginning with Fgst Nr.250822. The number of road wheels on each axle was decreased from three to two, meaning that it was no longer necessary to remove the outer wheels for rail travel. At the same time a smaller-diameter idler was introduced. An access port for the blowtorch with an oval-shaped armoured cover was created on the tail plate below the armoured guard for the left muffler. A turret ring guard was welded to the deck beginning with Fgst Nr.250850, necessitating a rearranging of the tool stowage on the hull deck. From Fgst Nr.250875 a new U-shaped tow shackle was issued.

Badly damaged and abandoned on 25 August 1944 outside Tostes, south-east of Elbeuf, this tank of 2.Kompanie, schwere SS-Panzer-Abteilung 102 is typical of the late production tanks operated by the battalion in Normandy. Note the steel-tyred roadwheels, cast cupola and armoured guard for the loader's periscope. At the hull front, between the driver's visor and machine-gun mount, parts of the bracket for the single headlight are still in place although the light has been lost. The company number 223 is just visible on the turret side.



Above: Aspects of the Normandy-era Tiger I tanks mentioned below and on the preceding pages. 1. The cast commander's cupola with rearward-opening hatch. Notice also the side vision slot and track hangers. The small box is a field modification. 2. Zimmerit anti-magnetic mine coating. Notice the two completely different patterns applied to the turret and hull. 3. The binocular gun sight apertures in the main gun mantlet. 4. The earlier straight hull extensions. 5. The notched hull extensions. 6. The tracks fitted with Gleitschutzpickeln ice cleats. 7. The main gun travel lock on the rear hull. 8. The single headlight on the hull front. 9. The steel-tyred roadwheels.

March 1944. A new 40mm-thick turret roof was installed from Fgst Nr.250991. The first versions were constructed from a single piece of armour plate, bent to slope downwards at the front, but from May 1944 the roof was made up of two pieces welded at the join directly behind the armour cover for the loader's periscope. The countersunk loader's hatch originally designed for the Tiger II was installed and the protective frame was dropped from production. The installation of the Nahverteidigungswaffe close-defence weapon, authorised in January, began.

April 1944. The T.Z.F.9c monocular gun sight replaced the T.Z.F.9b binocular version. As a number of gun mantlets had been manufactured with two apertures before the order was received, the outermost was sealed with an armoured plug and welded shut. As the tanks were subsequently covered with Zimmerit, these plugs are almost impossible to discern in contemporary photographs. In an attempt at standardisation, the 8.8cm KwK36 L/56 guns of a number of tanks were fitted with a lightweight muzzle brake designed for the 8.8cm KwK43 L/71 of the Tiger II.

May 1944. A wider track pin return plate was mounted on both sides of the hull above the idlers. Drainage slits were cut into the cast commander's cupola.

June 1944. Three sockets were welded to the turret roof to support a 2-ton jib boom. This modification was ordered to be retrofitted to older models. From Fgst Nr.2521205, double locking strips, shared by two nuts, were introduced on the track tooth ring of the drive sprocket. This was made necessary by the differences in casting which did not always result in centred locations for securing the nuts.

In July and August 1944 the last fifty-four Tiger I tanks, numbered as Fgst Nr.251293 to Fgst Nr.251346, were assembled using thirty-two turrets which had been returned from combat units for major rebuilds and twenty-two new turrets. Modifications included the complete replacement of the turret roof with a 40mm-thick armour plate and a cast cupola ring was welded to the turret roof. The holes for the older-style pistol port or the plug were covered and the new loader's hatch installed.

In June 1944 the possibility of installing poison gas detection equipment on the Tiger I was discussed and although it is unknown if this progressed beyond the planning stage, the manufacture of turrets continued well into August and as this modification was introduced on the Tiger II in July, it is therefore possible that poison gas detection panels were installed on the very last Tiger I tanks.

Tiger II, completed January 1944. The first production tanks had the standard tool stowage, sheet metal covers (1) for the exhausts and 40mm armour plate added to the turret roof as described in the text. The prominent armoured cover (2) over the opening for the deep-wading equipment on the rear deck was fitted to the first production models but very quickly dropped. Note the early 18-tooth drive sprocket (3) and the lack of a turret guard ring. The view port, or Schauloch, on the turret side (4) next to the pistol port (5), was welded shut as shown here. The single piece monobloc gun barrel (6) was replaced in production during April 1944. The curved track guards, hull Schürzen and coating of Zimmerit, which these tanks certainly had, have been omitted for clarity.

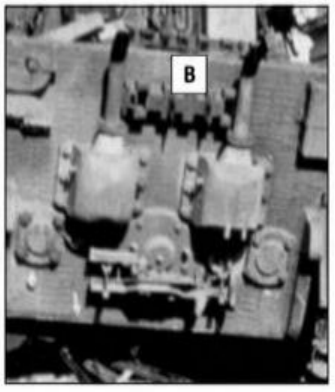
January 1944. From Fgst Nr.280001, the first production Tiger II, the flat front fenders of the prototype were replaced by a curved version with fixed sideplates (A). A coat of Zimmerit anti-magnetic mine paste, which had been introduced into tank manufacture the previous September, was applied from the start of production.

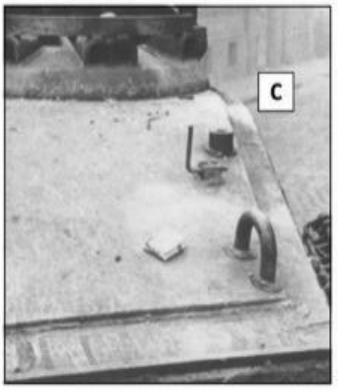
February 1944. The first pattern, upright exhaust pipes were replaced by curved models (B) and the metal shields for the exhausts were dropped from production. An access port with an armoured cover for the blowtorch, used to heat the engine's cooling water in cold weather, was added on the rear plate below the left exhaust.

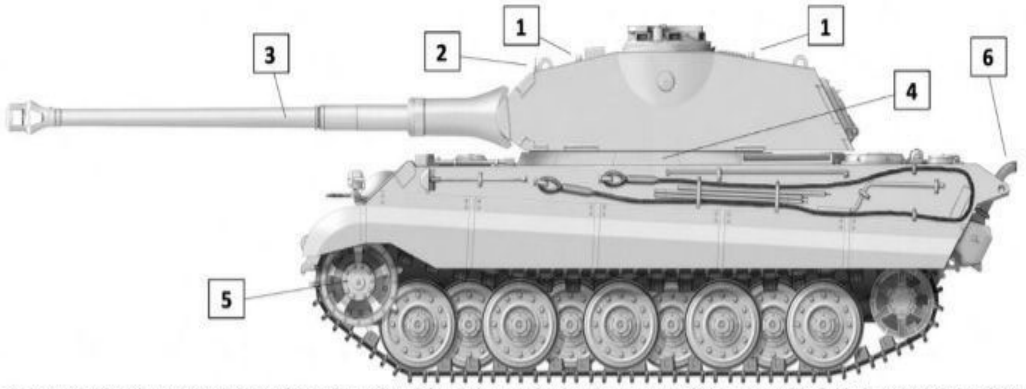
April 1944. A notch was cut from the edge of the glacis in front of the radio operator's periscope to allow a better field of view. The hull front extensions were modified to allow for the carrying of C hooks and the hull extensions at the rear were modified to allow the hooks to pivot upwards. A turret ring guard was added to the hull for tanks with the early turret. The T.Z.F 9b/1 binocular gunsight was replaced by the T.Z.F.9d monocular model. With this change a single aperture for the gunsight was adopted and the redundant apertures were plugged and welded shut. This feature is almost impossible to discern on tanks coated with Zimmerit. A new two-piece gun tube was introduced to replace the original monobloc version of the Kwk 43 L/71 gun. A lighter muzzle brake was also introduced.

May 1944. A new double-link track, designated Gelandekette Gg 26/800/300 replaced the Gg 24/800/300 design which had been fitted to the first production vehicles. These new tracks Were also retrofitted to older tanks. The drive sprocket for the new tracks had nine teeth in place of the previous eighteen. A metal blade sight for the commander was mounted on the turret roof at the left front corner. This was lined up with two wires welded over the foremost periscope of the commander's cupola.

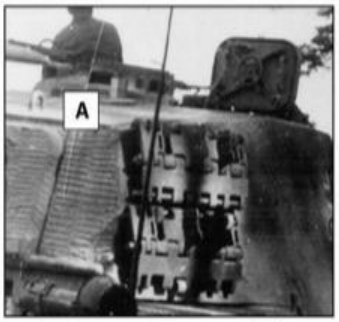
June 1944. The armoured pot-shaped cover for the deep wading equipment was deleted and replaced by a heavy wire mesh screen. This modification had in fact been carried out on most production Tigers but became standard in June. Three sockets or Pilzen (C) were welded to the turret roof to hold the 2-ton jib boom and these were also retrofitted to older models. A new, 40 mm-thick loader's hatch (E) was introduced. From Fgst Nr.280048 the Serien-Turm or series turret with strengthened, sloping front plate and without the bulge under the cupola was introduced and the turret ring guard, which was no longer necessary, was dropped from production.

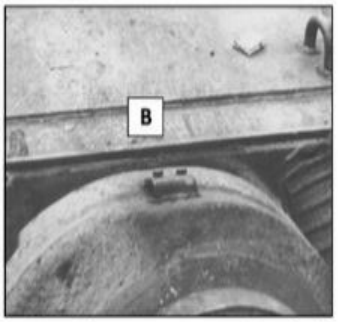


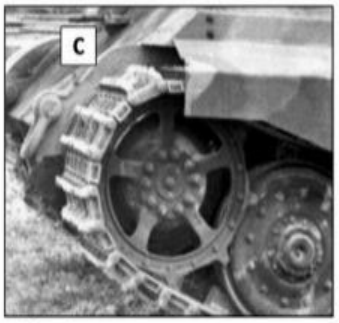




Tiger II, completed June 1944. This tank has the sockets (1), or Pilzen, welded to the turret roof, the commander's blade sight in front of the forward lifting eye (2), the two-piece gun tube (3), the turret ring guard (4), the nine-tooth drive sprocket introduced with the Gg 26/800/300 tracks (5) and the curved exhaust pipes (6). The armoured cover for the deep-wading equipment and the metal guards for the engine exhausts have been dropped form production. Not visible in our drawing is the notch in the glacis in front of the driver's periscope, the single aperture for the monocular gun sight and the vent on the rear deck for the fuel system. This tank would also have been coated in Zimmerit.



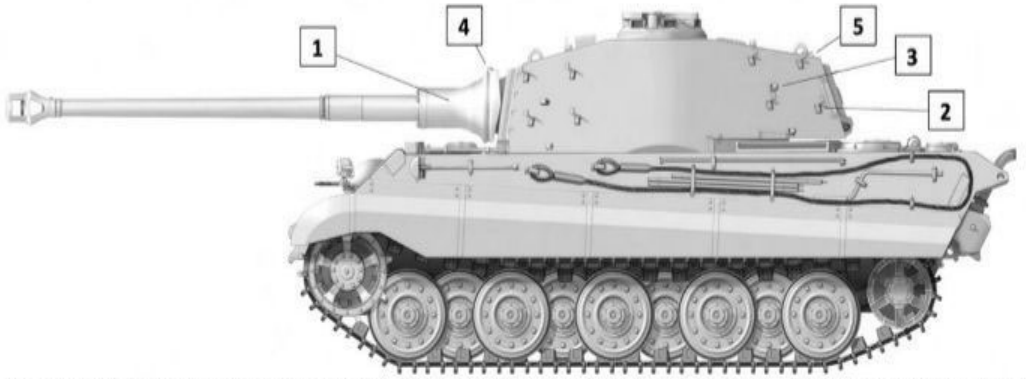




July 1944. Hangers and fasteners (A) were welded to both sides of the turret to hold double lengths of spare track. Small brackets (B) for poison gas identification panels were welded to the top of the gun mantlet and the turret roof at the right rear corner. Units in the field were ordered to replace the 18-tooth drive sprocket ring with the new 9-tooth version (C). This was sometimes accomplished by cutting out every second tooth.

August 1944. Between April and August three additional Krupp-designed turrets were completed and fitted to Henschel chassis, making a total of fifty. Narrower tracks, Verladekette, were provided for railway transport. To distinguish these tracks from those used for the Tiger I two or three links out of every ten were supposed to have been painted red. A redesigned commander's cupola was introduced, mounted in a machined recess and secured by seven bolts.

On 19 August 1944 an army order was issued directing that tanks were now to be painted in a standardised colour scheme before leaving the assembly plant. From Fgst Nr.280177, the interiors were no longer painted in Elfenbein RAL 1001, a very light ivory shade, but left in their coat of RAL 8012, a red oxide primer.



Tiger II, completed September 1944. This tank has the Serien-Turm or series turret (1), often called the Henschel turret, introduced in June 1944 with the later gun mantlet and with hangers (2) and fasteners (3) for spare track links. Small brackets for poison gas detection panels are fixed to the top of the gun mantlet (4) and behind the lifting eye on the turret roof at the rear (5). Not visible in our drawing are the armoured guards for the torsion bars on the turret rear, the armoured cover over the engine compartment on the rear deck and the 40mm-thick loader's hatch introduced in June 1944.

Dragon Models Ltd
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www.italeri.com

Takom
www.takom-world.com

Meng-Model
www.meng-model.com

R Model
Darryl Bedford alerted me to these highly detailed individual track links but i have been unable to confirm any contact details although they are available from a number of retailers.

Rye Field Models
www.ryefield-model.com
An almost non-existent website. I would recommend one of the on-line retailers.

Hauler
Jan Sobotka,
Moravská 38, 620 00 Brno,
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www.hauler.cz

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www.voyagermodel.com

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E.T. Model
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www.friulmodel.hu

Modelkasten
Chiyoda-ku Kanda, Nishiki-Cho 1-7, Tokyo,
Japan
www.modelkasten.com
Very difficult to navigate but worthwhile.

Glenn Bartolotti
An extensive list of Glenn's step-by-step build manuals can be found at
www.sbsarmormodels.yolasite.com

Eduard Model Accessories
Mirova 170, 435 21 Obrnice,
Czech Republic
www.eduard.com

Master Club
www.masterclub.ru
It appears that this firm is closely associated with Armour35, a Russsian mail-order firm.

Model Artisan Mori
Yasutsugu Mori,
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Zvezda (Zvezda-America)
www.zvezda-usa.com
Note that the Russian catalogue is not the same as the US version.

ROCHM Model
www.rochmmodel.com
rochmmodel@gmail.com
This company has a huge selection of parts and accessories for 1/35 scale Panther models.

As with the previous book in this series I have endeavoured to give the reader an understanding of a complex subject and provide the modeller with the inspiration to create a scale representation of what is arguably the most famous armoured vehicle to take to the battlefield. In researching this project I consulted a number of works but no book on the Tiger tanks could be written without reference to the *Germany's Tiger Tanks* volumes by Hilary L. Doyle and the late Thomas L. Jentz. I also drew heavily on the works of Oberst Wolfgang Schneider, particularly his histories of the Tiger battalions, and to a lesser extent the books of Horst Scheibert and Franz Kurowski. An invaluable resource are Thomas Jentz's *Panzertruppen* books which I would recommend to any reader with an interest in German armour of the Second World War period. I would very much like to acknowledge Hartmut von Holdt of Tiger im Focus for his many insightful observations, and the contributors to the Axis History and the Feldgrau forums, especially Martin Block and the late Ron Klages whose research on unit histories and vehicle allocations would fill many volumes. I would also like to thank the modellers who very generously allowed me to publish the images of their work. As always, I am indebted to Karl Berne, Valeri Polokov and J.Howard Parker for their invaluable assistance with the photographs and period insignia.

Abandoned in the streets of Villers-Bocage after the battle of 13 June 1944, this tank is one of the vehicles of Rolf Möbius' 1.Kompanie that attempted to enter the town from the north-east. Although the identification of this tank is the matter of some debate I believe that it is Tiger number 111 which was commanded by Obersturmführer Hannes Philipsen, the commander of the company's first platoon.

The aim of these innovative series is to provide modelmakers and enthusiasts with a new standard of primarily visual reference to both the full-size vehicles and their models, using detailed line drawings, plans and photographs, many in full colour. Each book is devoted to a famous military vehicle – chosen for its popularity as a modelling subject – but will range from main battle tanks to 4x4s.

TANK CRAFT

Tiger I and Tiger II: Tanks of the German Army and Waffen-SS
Eastern Front 1944

Sherman Tanks of the British Army and Royal Marines
Normandy Campaign 1944

Panther Tanks
Germany Army and Waffen-SS, Normandy Campaign 1944

Churchill Tanks
British Army, North-west Europe 1944–1945

Panzer IV
1939–1945

Jagdpanther Tank Destroyer
German Army and Waffen-SS, Western Europe 1944–1945

Panzer I & II
Blueprint for Blitzkrieg 1933–1941

T-34
Russia's Armoured Spearhead

Tiger I
German Army Heavy Tank, Southern Front, North Africa, Sicily and Italy, 1942–1945

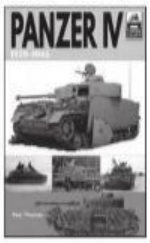
Cromwell and Centaur Tanks
British Army and Royal Marines, North-west Europe 1944–1945

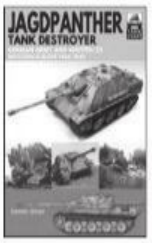
Centurion
Armoured Hero of Post-war Tank Battles

Sherman Tanks, US Army, North-western Europe, 1944–1945

Tiger I and Tiger II Tanks, German Army and Waffen-SS, The Last Battles in the West, 1945

T-54/55
Soviet Cold War Main Battle Tank





Tank Destroyer
Achilles and M10, British Army Anti-Tank Units, Western Europe, 1944–1945

FORTHCOMING

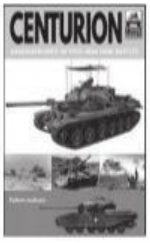
Panther: Germany Army and Waffen-SS
Defence of the West

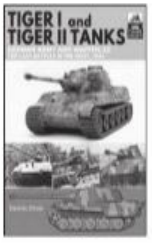
Chieftain
British Cold War Main Battle Tank

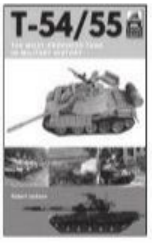
Challenger 1
British Main Battle Tank of the Gulf War

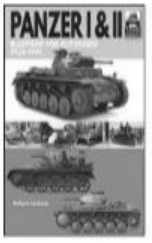
M1 Abrams
The US's Main Battle Tank in American and Foreign Service, 1981-2018

Tiger I: German Army Heavy Tank
Eastern Front, Summer 1943

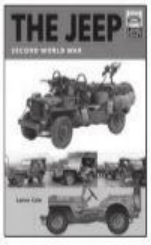


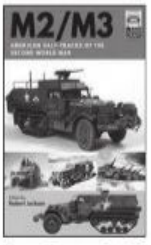






LAND CRAFT





The Jeep
Second World War

M2/M3
American Half-tracks of the Second World War

Bren Gun Carrier
Britain's Universal War Machine

A wide range of kits and accessories attests to the long-standing popularity of these military vehicles as modelling subjects, while significant differences between variants offers opportunities to 'individualize' models, as is so well illustrated in these books by many archive and modern photographs.